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AS WE SEE IT

BY STEVE GUTTENBERG

THIS ISSUE: The live concert experience is revered by most of us, but not all.

Home Alone

We all have secrets, and it's about time I came clean with one of mine: *I enjoy recorded music more than concerts.*

I know, that's a sacrilege—as a lifelong music lover, I'm supposed to relish the live event, with all of the energy and connection between musicians and audience that can happen only when they're all breathing the same air. That may be true for you, but not for me. I've harbored the guilt for years: When I take the plunge and attend a concert, I rarely enjoy the experience enough to justify the effort and expense.

My sense of guilt is magnified when the music is great and I'm still not feeling it, for any number of reasons: I'm too hot or too cold; the sound system is too loud or too quiet; the strangers next to me are coughing, sneezing, burping, snoring, or farting. I've had beer, soda, and mystery liquids rained on me. That's bad, but worst of all is when I'm out of phase with the audience or friends I came to the show with: they either like the music less than I do and I'm worrying about them, or I hate the show and desperately want to leave but don't want to insult my friends. You get the point—I'm a seriously neurotic concertgoer.

In late August I went alone to the Stone, John Zorn's storefront club in the East Village, to hear Terry Adams (piano, celeste), Hal Willner (turntables, samples, voice), Karen Mantler (harmonica), and Art Baron (trombone) perform the music of Thelonious Monk and the poetry of Sun Ra. I didn't know much about the Stone—only that a 65-seat venue would have to be intimate—but the hard plastic seats and cramped vibe instantly put me off. The humidity was oppressive, even though an air-conditioner was running full blast 20' behind me, drowning out some of the quieter tunes and poems. Then there were the distractions: shuffles, people moving about, and, best of all, the door to the bathroom was at the *back* of the stage. If nature calls, it better call before the show starts—and even then, you'll have to make your way through the maze of music and microphone stands and cables on stage. On the plus side, the Stone's PA sound was terrific and not too loud. I was thankful for that—for once, I didn't have to wear earplugs. The Stone's schedule of concerts looks really interesting. I'll never go back.

I wasn't always this way. I have lots of wonderful concert memories: the Rolling Stones at Madison Square Garden in the 1960s and '70s; B.B. King, Procol Harum, and the Jefferson Airplane at the Fillmore East; Miles Davis at the Village Vanguard; Eric Burdon, David Bromberg, Loudon Wainwright III at the Bottom Line; Tom Waits, the Pixies at the Beacon Theater; Ray Charles, Abbey Lincoln, the Modern Jazz Quartet at the Blue Note; Philip Glass solo and Larry Coryell at the Village Gate; Laurie Anderson at the Brooklyn Academy of Music; and many more. I enjoyed concerts more in the '60s and '70s, less and less as the years went by. I saw Led Zeppelin twice, and the sound

I play what I want, when I want it, at precisely the volume level I want, and it almost always sounds better than what I hear at concerts.

sucked both times. When I finally got around to seeing Eric Clapton, he was a total snooze. Sadly, the forgettable shows far outnumber the great ones.

My friends who prefer live music are always saying things like, "I'll take great music performed in a great venue every time. Not only is the music more involving, but the energy of musicians playing with and off each other adds another dimension to the storytelling." Okay, but I get most of that from my

favorite studio and live albums. At their best, they capture musicians at their peak: the Who's *Live at Leeds*, the Allman Brothers Band's *At Fillmore East*, the Dave Brubeck Quartet's *At Carnegie Hall*, *Woodstock*, etc. Nowadays, depending on the band, a lot of live music is heavily processed and Auto-Tuned—it's not truly live anymore. Sometimes, when everything is just right with your home system, you can feel closer to the players than you might have at a concert. I know I do.

When I'm home alone with my hi-fi, *I'm* in control. Everything is exactly the way I want it to be. I play what I want, when I want it, at precisely the volume level I want, and it almost always sounds better than what I hear at concerts. Recorded music has been honed, perfected, and approved by the artists—it's as good as they'll ever be. In many cases, it's *better* than their live shows. Ex-Talking Head David Byrne noted in his book, *How Music Works*,¹ that live performance and studio recording are completely unrelated skills. Most bands and artists are much better at one than the other.

But as I was finishing this piece, I went to see my friend David Chesky's Jazz in the New Harmonic show, at Dizzy's Club Coca-Cola, at Jazz at Lincoln Center. It was an idyllic evening: the band was in fine form, and the sound, friends, food, and ambiance were all in sync. I loved every minute! Dizzy's comfortably seats about 250 people, and the club's sound engineer *doesn't* run drums, horns, and other loud instruments through the sound system—only the double bass, voices, etc. The finely crafted acoustics of the club put the music in the best possible setting. If you live in or visit New York City and love jazz, by all means make your way to Dizzy's. Hey, that's coming from *me*—the grumpiest concertgoer on the planet! ■

Steve Guttenberg (Stletters@sorc.com) writes the blog *The Audiophile* for CNET.com.

1 See www.stereophile.com/content/book-review-ihow-music-works.



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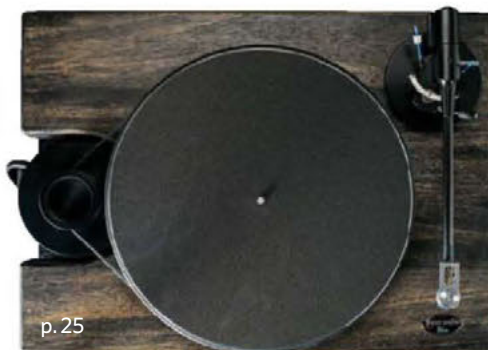
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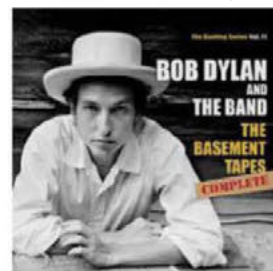
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LETTERS FEEDBACK TO THE EDITOR

Preaching to the choir

Editor:

Sadly, I suspect that Art Dudley's excellent "Listening" column in November (p.43) exemplifies preaching to the choir. Judging by the anger a single review can generate, surely a whole issue of *Stereophile* must trigger fatal apoplexy in the measurement trolls. Even so, let this choir member sing hallelujah, because, ironically, there is nothing scientific about the common belief that "any observation that doesn't fit into my theory must be delusional." Au contraire, the progress of science is almost totally dependent on observations that don't fit the current theories.

Certainly, there are times that a beautiful theory demands that the presumed facts be reexamined—Einstein's prediction that gravity would bend light is just one example. Much more often, irritating and unfortunate facts overturn longstanding theories, as Darwin experienced after his visit to the Galápagos—or, in our hobby, the effects of jitter. In short, the relationship between observation, hypothesis, and theory in science is far from simple or linear, and dismissing legitimate observations because they don't fit the theory is willful blindness.

Incidentally, why are they so angry? Galileo's inquisitors have nothing on these guys. Come on—perhaps your theory is incomplete, as theories often are.

Really, we're both struggling with the central conundrum of management by metrics: Do we engage in the struggle to measure what is valuable, or opt for valuing what is easily measurable?

—Graham Thorburn
gtandzi@tpg.com.au

The big bucks?

Editor:

Art Dudley's argument for avoiding double-blind tests ("Listening," November 2014, p.43) tells only half the story. True, blind tests may be short and, as such, favor first impressions and sugary artifacts. However, your usual method of testing suffers from a powerful anchoring effect produced by the knowledge of which equipment you are listening to. This conditioning isn't subtle, and leads to incorrect subjective results. The best method, albeit not very practical: to test equipment over long periods without

knowing what you are listening to. You will need an assistant, but then again, why do we pay you the big bucks?

—Michael Kandarakis
michael@kandarakis.net

Sorry, Mr. Dudley ...

Editor:

... as Floyd Toole pointed out at the Audio Engineering Society's 111th convention, double-blind testing reliably reveals audio equipment with a colored amplitude response. Furthermore, he demonstrated that colored equipment distorts the music just as colored light distorts a painting.

Maybe Art Dudley prefers distortion. In the same issue as his Luddite screed against blind testing (November, p.43), Art praised an amplifier with 4% distortion in the left channel as "right up there with the best I've heard." Might Art be the "angry, jealous, socially inept loser," rather than the objective engineers who rely on blind testing?

Instead of lamenting the "name-calling" and "hysteria" of others, perhaps Mr. Dudley could "keep an open mind" himself.

—B. Jan Montana
bjanmontana@gmail.com

I don't know why B. Jan Montana begins with an apology, although I appreciate the gesture. I'm also unsure of the need for the reference to Floyd Toole: At no point does my editorial deny the ability of blind testing to reveal the existence of gross colorations. As to the suggestion that I prefer distortion, I respectfully suggest that Mr. Montana adopt a more open-minded view of the many different ways in which playback gear distorts recorded music. As I have observed on other occasions, given the choice between an amplifier that adds up to 5% second-order (but no higher!) harmonic distortion to the signal and one that compresses dynamics or blunts the attack components of

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notes, I would indeed happily take the former, any day. That doesn't mean I'm a distortion lover, but rather a distortion chooser—something we all must do to one extent or another, and that each of us is free to do in accordance with our own criteria. In any event, I'm grateful that, in spite of his/her antipathy, B. Jan Montana apparently reads everything I write for Stereophile: That makes me not an angry loser but a professional writer whom B. Jan Montana, along with tens of thousands of other readers, supports—for which I am grateful.

One imagines that B. Jan Montana's music system reflects a set of sensibilities very different from my own. I hope and trust it is a source of true pleasure.—Art Dudley

How we play

Editor:

Apropos the discussion of the pros and cons of blind (or double-blind) equipment testing: It's my understanding that the New York Philharmonic, and very possibly other orchestras as well, stipulates that anyone auditioning for an open chair must perform from behind a screen, sight unseen. Thus, parameters such as gender, relative age, appearance, etc., go out the window.

Undoubtedly, those in charge of the audition are seeking a certain something that only they may know, yet can be transmitted only aurally. One can only speculate how big a role indefinable artistic factors such as communication, taste, temperament, and character play, beyond the assumed ability to simply play the instrument.

—Jeff Rainer
Wynnewood, PA

How We Hear

Editor:

A series of audio demonstrations by Albert Bregman, derived from the following 1996 CD: *Demonstrations of auditory scene analysis: The perceptual organization of sound* (Auditory Perception Laboratory, McGill University. © Albert S. Bregman, 1995), offers insights into how we hear. It is available as a free download from <http://webpages.mcgill.ca/staff/Group2/abregm1/web/downloadsdl.htm>.

I am just listening straight through, amazed and fascinated, as it's fairly self-contained. (Before beginning, use track 42 to set volume level.) —Desmond Fretz
dezfretz@me.com

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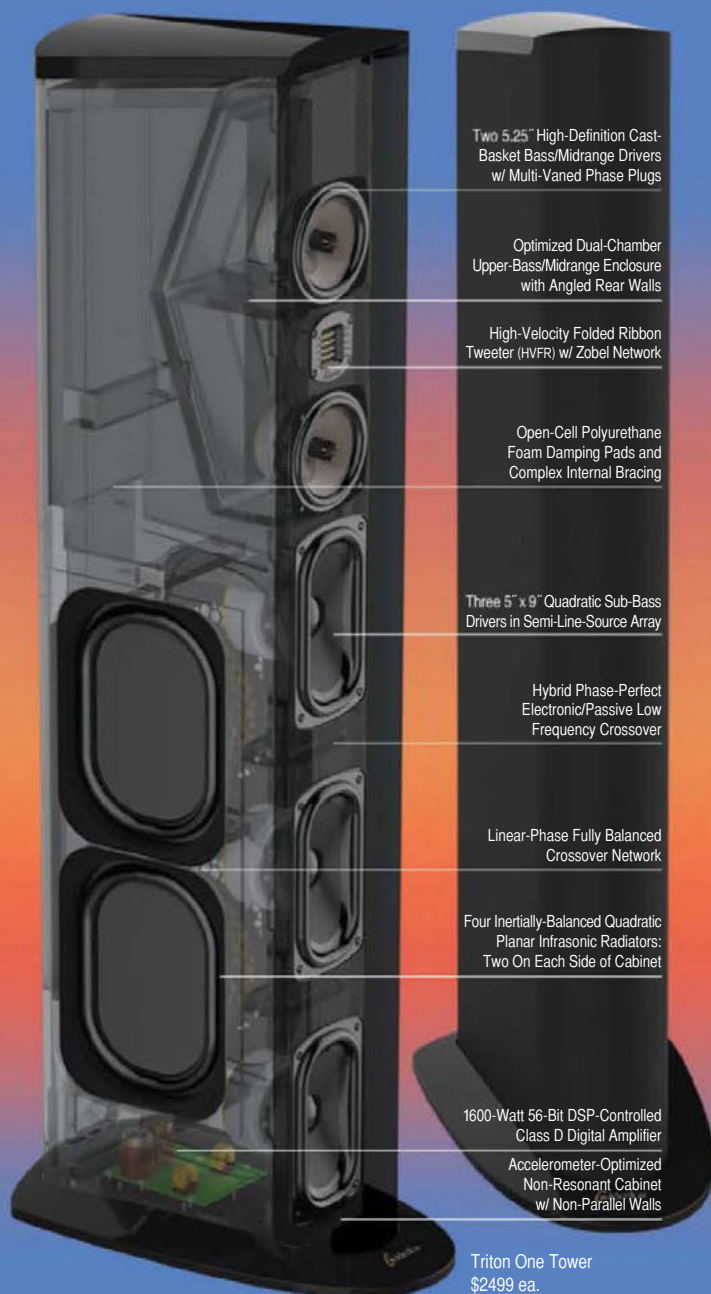


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– Dennis Burger, *HD Living*

Great sound is what it is all about and the Triton Ones deliver, as The Absolute Sound's Chris Martens raved, "*The Triton One offers excellent clarity, highly three-dimensional imaging, subwoofer-grade bass depth and clout plus fine levels of low-end pitch, definition and control*". The Ones were specifically engineered to excel with all types of music as well as movies. Best of all, they offer previously unheard of value, as Brent Butterworth wrote in *Sound & Vision*, "*I heard a few people saying the Triton One sounded like some \$20,000-and-up high-end towers, but I disagree: I think they sounded better than most of them*". Darryl Wilkinson summed them up best, "*A Masterpiece ... GoldenEar has fully ushered in the Golden Age of the Loudspeaker*". Hear them for yourself and discover what all the excitement is about.

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INDUSTRY UPDATE

AUDIO NEWS & VIEWS

UK: WORTHING

Paul Messenger

It's pure coincidence that Bowers & Wilkins chose to launch their all-new range of CM S2 speakers immediately after I'd experienced their hi-fi PA system (see December 2014, p.13). Indeed, the revisions were inevitable, to ensure that the Compact Monitor (CM) series still had a performance advantage over the budget 600 models, which were upgraded at the beginning of 2014.

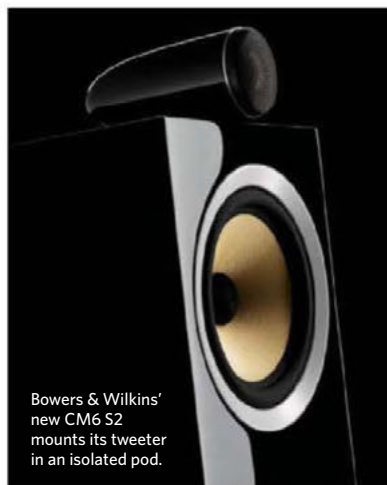
The original CM1, introduced at the end of 2005, was a decidedly pretty little stand-mount that was an immediate commercial success. Once a complete range of Compact Monitor models had been developed, these crisply cuboid models effectively took over the midprice slot from the 700 series, now discontinued. Although the original five CM models were introduced over several years, the S2s have been launched together as a complete range, their enclosures available in high-gloss black or white lacquer, or a veneer of Rosenut wood composite. The improved cosmetics include concealing the CM S2s' larger driver-mounting screws under metal trim.

Along with two center-channel models and a subwoofer, the CM S2 range includes six stereo pairs: three stand-mounts and three floorstanders. The extra model, the CM6 S2 two-way stand-mount (\$2000/pair), is similar to the CM5 S2, but its tweeter is mounted in a substantial and mechanically decoupled nacelle atop an otherwise cubical cabinet, which adds \$400/pair to the US price over the CM5 S2. While the CM6 S2 might split the difference between the CM5 S2 stand-mount (\$1600/pair) and the CM8 S2 floorstander (\$2400/pair), that doesn't take into account the matching stands (\$500/pair).

UK: WHITTLEBURY HALL, NORTHAMPTONSHIRE

Paul Messenger

Traffic problems made getting to Whittlebury Hall, which is close to the Silverstone Formula One Circuit, for the



Bowers & Wilkins' new CM6 S2 mounts its tweeter in an isolated pod.

The CM S2s have heftier enclosures than the 600s, but probably the most significant change is the use of the decoupled "dual-layer" aluminum-alloy dome tweeter used in the latest 600 models. Fitting a thicker (50µm) reinforcing ring around the edge of the dome has stiffened the entire structure and thus raised its breakup mode from 30 to 38kHz. It has also allowed the thickness (and hence the mass) of the dome itself to be reduced from 50 to 35µm, usefully increasing the tweeter's sensitivity. High-quality terminal pairs and internal wiring, plus superior Mundorf gold-in-oil EVO capacitors in essentially simple tweeter-crossover feeds, should all result in better sound quality than the 600s, while all CM tweeters now have protective grilles permanently fixed in place.

Although the launch event didn't compare the CM S2s with the 600s, it did include some useful and quite convincing comparisons and clearly demonstrated the advantages of the CM6 S2 having the tweeter atop the cabinet. Only time will tell whether that's enough to compensate for the \$400/pair price premium.

UK's annual **National Audio Show** a struggle, but when I finally arrived, it was good to find the event bubbling and busy. Maybe the UK really is emerging from the 2008 recession.

NAS might be much smaller than its

SUBMISSIONS: Those promoting audio-related seminars, shows, and meetings should e-mail the when, where, and who to JAtkinson@enthusiastnetwork.com at least eight weeks before the month of the event. The deadline for the March 2015 issue is December 20, 2014.

CALENDAR OF INDUSTRY EVENTS

ATTENTION ALL AUDIO SOCIETIES:

We have a page on the Stereophile website devoted to you: www.stereophile.com/audiophile-societies. If you'd like to have your audio-society information posted on the site, e-mail Chris Vogel at info@XLinkAudio.com.

Please note that it is inappropriate for a retailer to promote a new product line in "Calendar" unless this is associated with a seminar or similar event.

CALIFORNIA

■ Thursday, January 15, 7-10pm:

Audio Vision of San Francisco

(1628 California Street) will host an evening with **Moon by Simaudio, Audio Physic, Woo Audio, Abyss, MrSpeakers, and Nordost** at its new and improved location on the historical Cable Car line, in downtown San Francisco. Featured products will include the Moon Neo 430HA headphone amplifier and Neo 380D DSD DAC, the Audio Physic Avantera Plus loudspeakers, Woo Audio's WA5 tubed headphone amp, Abyss Reference headphones, MrSpeakers Alpha Prime headphones, and Nordost speaker, power, and headphone cables. Costa Koulisakis of Moon will give an informative presentation on digital technology and discuss streaming. Refreshments will be served. RSVP by December 31 to (415) 614-1118. For more information, visit www.audiovisionsf.com.

■ Saturday, January 24, 4-8pm:

The Los Angeles & Orange County Audio Society

will hold its monthly meeting at **Audio Element**, in Pasadena (117 E. Union Street). Brian Berdan, his colleagues, and industry representatives will highlight some of Audio Element's premier brands. A raffle is planned and dinner will be served. Parking lots and structures are nearby. Since space is limited

Heathrow or Harrogate predecessors, but it nonetheless is a good indicator of trends in today's UK hi-fi scene, and the 2014 edition emphasized two. The substantial increase in headphone listening was clear from the large number of participants in the **Highend Headphones** exhibit. Also very obvious was the rise of the dealer-as-distributor. Nor was it a surprise to find plenty of tubes and vinyl alongside the laptops and DACs.

One thing that did surprise was the revival of **Royd Loudspeakers**, specifically the rather cute Minstrel model, now appropriately known as the Troubadour, which houses the ingredients of a seven-liter, two-way,

stand-mounted speaker inside a tiny, back-tilted, floorstanding enclosure. Founder Joe Akroyd closed his company and retired more than a decade ago, but his speakers have since won cult status, which is why Adam Norbury has revived the Royd brand. However, although the Troubadour's enclosure is similar to the Minstrel's (albeit now available in a range of colors), it uses OEM drivers, including a ribbon tweeter, in place of the original Royd-built examples.

Conservative British consumers might favor speakers with boxy wooden enclosures, but the stylish **Pluto** is a cute and compact newcomer that sounded very good

indeed. It began life as an actively driven and equalized omnidirectional do-it-yourself design by academic Siegfried Linkwitz (of Linkwitz-Reilly crossover-design fame; see www.linkwitzlab.com). Licensed and approved by Linkwitz himself, finished examples are now made in China for sale in the UK (and, presumably, elsewhere), in four shiny colors. The dish-diaphragm tweeter sits on a stalk that projects across the front of an upward-firing 5" mid/woofer loaded by a long tube (bass reinforcement by a subwoofer would be helpful). See www.plutospeakers.co.uk.

I find **Icon Audio** rather confusing. They not only make an enormous

due to city codes, RSVP is required. To reserve your place, please e-mail Hajime Sato at eastwindimport@gmail.com. For more information, visit www.laocas.com.

GEORGIA

■ Saturday, December 20, 3-6pm: **The Audio Video Club of Atlanta** is hosting a live piano performance and hi-rez recording session featuring **Dr. Heide**

Rice, of the Curtis Institute of Music, in a program of Beethoven, Brahms, Chopin, and Rachmaninoff. Recording equipment will be **Sound Devices 722** (24/192 PCM) and **Korg MR 1000 DSD** recorders, **AKG** professional mikes, and **Kimber Kable** KCAG silver cables. The program is hosted by the European School of Music (5187 Roswell Road, Sandy Springs). A reception will be held after the performance and recording

session. Guests and new members welcome. For information, contact John Morrison, President, or Chuck Bruce, VP, at (770) 330-3919 or jhm3@bellsouth.net. Register at the club's website: www.a-vcoa.org.

■ Sunday, January 25, 2-5pm: **The Audio Video Club of Atlanta** and **Integrity High Fidelity Solutions** will showcase electronics, loudspeakers, and accessories by **Densen Audio**



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range of competitively priced tubed amplifiers designed in the UK and made in China, but their room always seems full of loudspeaker designs, some of rather dubious heritage. However, I caught sight of Icon's new MB81, a limited-edition monoblock amplifier based on the Russian GU81 output tube and capable, I was told, of delivering a continuous 200W into 8 ohms. Such a combination of power delivery and tube type is unusual.

A favorite of mine was **Hi-Fi Guy's** room, where a pair of enormous **Tannoy** Kingdom speakers were being driven by **Thrax** tubed electronics from Bulgaria, and a DAC from **MSB**, in California. This is



Icon's new MB81 monoblock amplifier uses the Russian GU81 output tube.



Clearaudio's Statement TT tonearm weighs 19 lbs!

Technologies (DP Light Drive phono preamp), **Dynaudio**, **Atlas Cables**, and **Margules Audio** (U280 vacuum-tube amplifier and new TT-10 turntable). Curators of the Allman Brothers' The Big House Museum, in Macon, Georgia, will present a retrospective of the band and their LP recordings and creative history. Location: Dunwoody North Driving Club, 4522 Kingsgate Drive, Dunwoody. Guests welcome; refreshments

provided. For information, contact John Morrison, President, or Chuck Bruce, VP, at (770) 330-3919 or jhm3@bellsouth.net. Register at the club's website: www.a-vcoa.org.

MINNESOTA

■ Tuesday, January 20, 7-9pm: **The Audio Society of Minnesota** will hold its monthly meeting. This month's meeting will feature our annual "bring and brag"

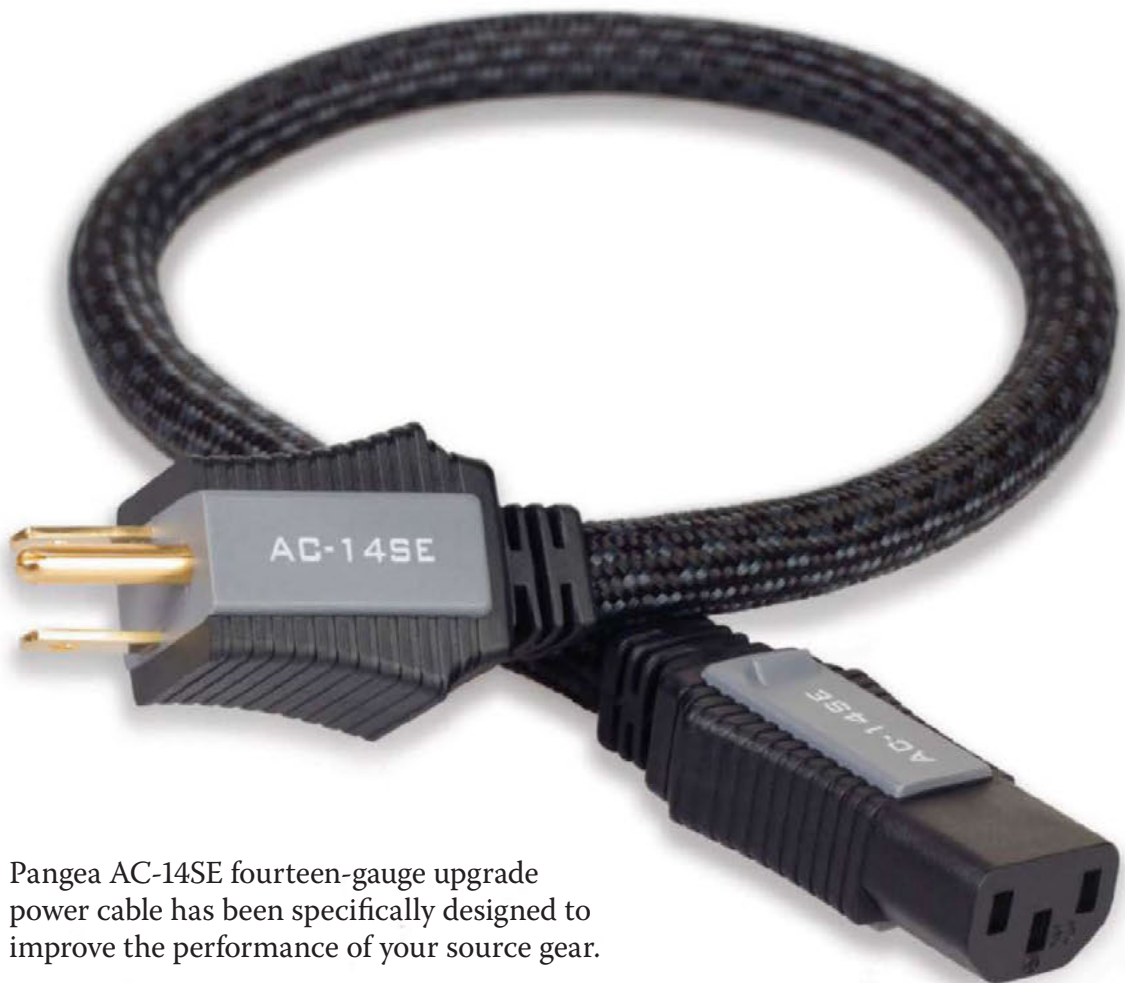
session: members and visitors bring in vinyl and CDs for an extended listening session on the ASM's high-performance audio system. The meeting will be held at the Pavlek Museum of Broadcasting (3517 Raleigh Avenue, St. Louis Park). Refreshments will be served; guests, visitors, and new members are welcome. For more information, visit www.audiomn.org.

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precisely the sort of system I'd like to have at home, but the prices are a bit too high for me. Much the same was true of the large and equally entertaining **Acapella** speaker system from Germany, complete with horn-loaded ionic tweeter, and its partnering solid-state amplification, in a room well stuffed with costly tweakery. However, the prize for the most over-the-top component at the show goes to **Clearaudio's** Statement TT1, a parallel-tracking tonearm that, at 19 lbs, is heavier than many turntables.

The high-end components in distributor **LW Audio's** fine-sounding room were rather more affordable, combining some delightful Chinese tubed amplification from **Audio Music** with the idiosyncratic, lively, and partially horn-loaded **Horning Hybrid Systems** loudspeakers, from Denmark. **wOw Audio LAB's** solid-state electronics were also there, proving that China can more than match the West in the category of fabulous finishes.

Russ Andrews Accessories was demonstrating the effect of inserting an "audiophile-grade" fuse in a mains plug that was feeding a decidedly humble boom box. That the effect was surprisingly audible tends to support Andrews's contention that mains quality makes a vital contribution to overall sound quality.

A number of demonstrations revealed how important it is to choose one's support furniture with care. **Vertex AQ's** vibration-absorbing



Thrax tubed electronics are made in Bulgaria.



The Simple Audio system distributes audio around a house using the AC wiring.

Leading Edge platforms were found under key items of equipment in more than one room (as well as in my own home listening room). Operating quite differently, **Townshend Audio's** full range of spring-decoupled furniture was being displayed on an open series of tables, with Max Townshend and members of his family on hand to explain things. I've found that using Townshend decoupling springs is very effective under large and heavy speakers on a wooden floor. However, I was intrigued to encounter an alternative "skyhook" approach in Mark Baker's **Origin Live** room, wherein his cylindrical Astute speakers were hung from a stand that extended over and above the speakers.

Four years ago I first encountered **Simple Audio**, a Scottish company whose founders used to work for Linn Audio. Simple, whose products use mains wiring to distribute sound

around the house, looked like a genuine high-resolution rival to WiFi-based Sonos, but it seems to have taken them a while to get organized. I was delighted to find Simple alive and healthy, and helping dealer **Ortons Audio:Visual** put on a show.

Systems based on approaches like Simple's seem destined to take over multiroom home entertainment. A question is whether and to what extent such approaches will undermine our traditional hi-fi components, but I feel that there's plenty of room for the new and the traditional to coexist. The National Audio Show included plenty of the weird and the wonderful, but also gave some hope that the high-end audio industry has weathered the economic and technological storms of the last few years. Unless headphones or WiFi speakers are your thing, it might not have emerged stronger, but it has at least survived.

UK: LUTON

Paul Messenger

I've known designer and erstwhile Morel technical director Russell Kauffman for more years than I care to recall. He was a regular member of my listening panel when I used to carry out blind listening tests of loudspeakers, so I can fairly be accused of bias when writing about his new loudspeaker brand, Russell K. The speakers weren't available in the US at time of writing, but Kauffman has persuaded a number of hard-bitten UK retailers to stock them, and they're unusual on at least two counts.

First, the Russell Ks are designed in Britain but made in Poland, which keeps their European prices very competitive. This move back from the Far East, to Eastern Europe, seems to make good sense as China's prices inevitably rise. Shipping costs from



The new Russell K speakers are made in Poland.

the Far East were always significant, while Eastern Europe has long-established traditions of education and manufacture.

More significant and unusual is that Kauffman has managed to design speakers with no internal damping materials whatsoever. I recall discussions about this erupting some 25 years ago, and that I then removed the internal damping materials from a commercial speaker, with a mixture of positive and negative results. By designing speakers from scratch to have no internal damping, Kauffman has managed to retain the positives—a freedom from time smear, plus realistic dynamic expression—without the colorations that can accompany a more simplistic approach. Having listened at length to two Russell K models, I have to acknowledge that he's proved his point. ■

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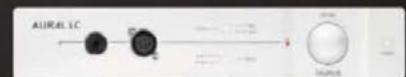
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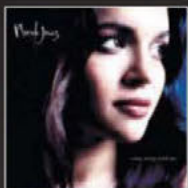
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AS WE SEE IT

BOB KATZ

EXTRA!

THIS ISSUE: the Loudness War is over (if you want it)

Let Freedom Ring

In the 2014 November issue, my good friend Steve Guttenberg (“Communication Breakdown,” p.3) got his facts mostly right: It’s true that most listeners (including myself) accept far more distortion today than we did years ago. Many people have never heard a great stereo system—all they’ve heard are overdriven boom boxes, cheap stereos, and portable systems, and that’s what they expect systems and music to sound like. And distortion is part of the sonic language of such musical genres as hip-hop, rap, and alternative rock.

Technically speaking, *distortion is compression is distortion is compression*. You can’t have one without the other: compression reduces peaks, and a distorted waveform has fewer peaks than a clean one.

However, Steve missed the important reason why many music professionals prefer distorted, closed-in, compressed sound over the clean, open version: *Distorted music sounds louder!* A squarewave is at least 3dB louder than a sinewave of the same peak value—and these days, musicians and producers are making a lot of squarewaves.

Louder is seductive but deceptive. Producers use compression to improve body and punch, to “glue” their mixes, but they deceive themselves if they don’t match before-and-after levels for an objective assessment of what they’ve done. Likewise, audio reviewers should match levels. I thought my new DAC sounded deeper, wider, and clearer—but the only difference was that it was (only) 0.2dB louder than my previous DAC! While real differences do exist between gear, when I matched the levels, the sonic differences vanished.

Popular-music producers take advantage of loudness every day to gain (pun intended) your attention—the loudness war has been going on for decades. The median loudness of LPs went up about 4dB between 1950 and 1980. The median loudness of the pop CD rose 9dB between 1979 and 2011.¹

The impact, punch, clarity, soundstage, transient response, and microdynamics of recordings, all of which we audiophiles consider desirable qualities, are affected by a recording’s peak-to-loudness ratio (PLR). Between 1980 and 2010, the median PLR of charting pop recordings decreased from 16.6 to only 8.9dB.

To reproduce good-sounding transients, a medium needs a minimum headroom to accommodate peaks of 16dB above the loudness. But here’s the rub: a recording cannot have a high peak-to-loudness ratio *and* simultaneously be loud (at the same position of your volume control). This is why CD sound quality has deteriorated so much in 30 years. We can’t stop the loudness war by asking producers to pull back levels, because our nervous systems are wired for louder. However, an overcompressed, squashed, distorted recording sounds fatiguing and wimpy compared to a more open version—*once loudness is matched*. Notably, Michael

Jackson’s “Beat It” rose over 10dB—that is, it became twice as loud and more compressed—over four different editions, from its 1980 CD release to a 2009 compilation.

Did Michael Jackson request louder, more distorted versions of his hits? Not. These classic recordings were remastered to be louder than the originals, to keep them from sounding quieter next to more current victims of the loudness war. To my ears, the remastering producers made the wrong decision, because the original versions of this legacy recording can’t be beat. Fortunately, HDTracks also offers the original master of *Thriller*: the hi-rez version sounds like listening to Michael for the very first time. Play it. Compare it to the Black Eyed Peas’ *Let’s Get It Started* to hear how far we’ve veered toward hypercompression and distortion. I love the Black Eyed Peas’ music, but I wish it were more dynamic.

No matter what you think of the sonic quality of the Black Eyed Peas, the loudness war has to stop. It has jeopardized our recorded legacy and affected the sonic practices of popular music producers. Most of my popular-music clients request a louder master if mine is 1 or 2dB lower than its competition. Only a few daring, knowledgeable producers make lower-level records—the ones you have to turn up with your own volume control. I love to produce gorgeous-sounding recordings, but today, most artists and A&R departments choose the overcompressed version for fear that a lower-level recording will not be appreciated by the public.

Today, most music services, including iTunes Radio and Spotify, are *loudness-normalized*. But iTunes’ file playback is not normalized (you can turn on normalization by choosing “Sound Check” in Preferences). Many producers audition music files through iTunes, but since Sound Check is not a default setting, the loudness war wages on.

Steve misses the point: *Loudness normalization is liberating, not limiting!* While the current situation tends to box producers into a corner, loudness normalization expands our creative choices. It frees us to create sound any way we wish—compressed, distorted, dynamic, open and clear, or anywhere in between. I urge *Stereophile* readers with friends at Apple to ask them to turn on Sound Check by default. The same goes for YouTube and SoundCloud. This change will revolutionize the sound world overnight, lead to the end of the loudness war, and give rise to the Loudness Revolution. It will be a new day that gives artists the freedom to produce the sound they desire, without competitive loudness pressuring their decisions. Let Freedom Ring! ■

In mastering engineer Bob Katz’s new book, *Mastering Audio: The Art and the Science*, Third Edition (Focal Press), he explains how music is recorded, mixed, and mastered today. Chapter 17 tells a vivid tale using Rudi Ortner’s statistics. Visit www.digido.com. Loudness Normalization requires a proper loudness target: visit www.music-loudness.com.

¹ The LP figure is my estimate. The CD figure is based on actual measurements of 10,000 charting recordings by Austrian sound engineer Rudolph Ortner in his masters thesis, *The Evolution of Loud*.



GOODWIN'S HIGH END

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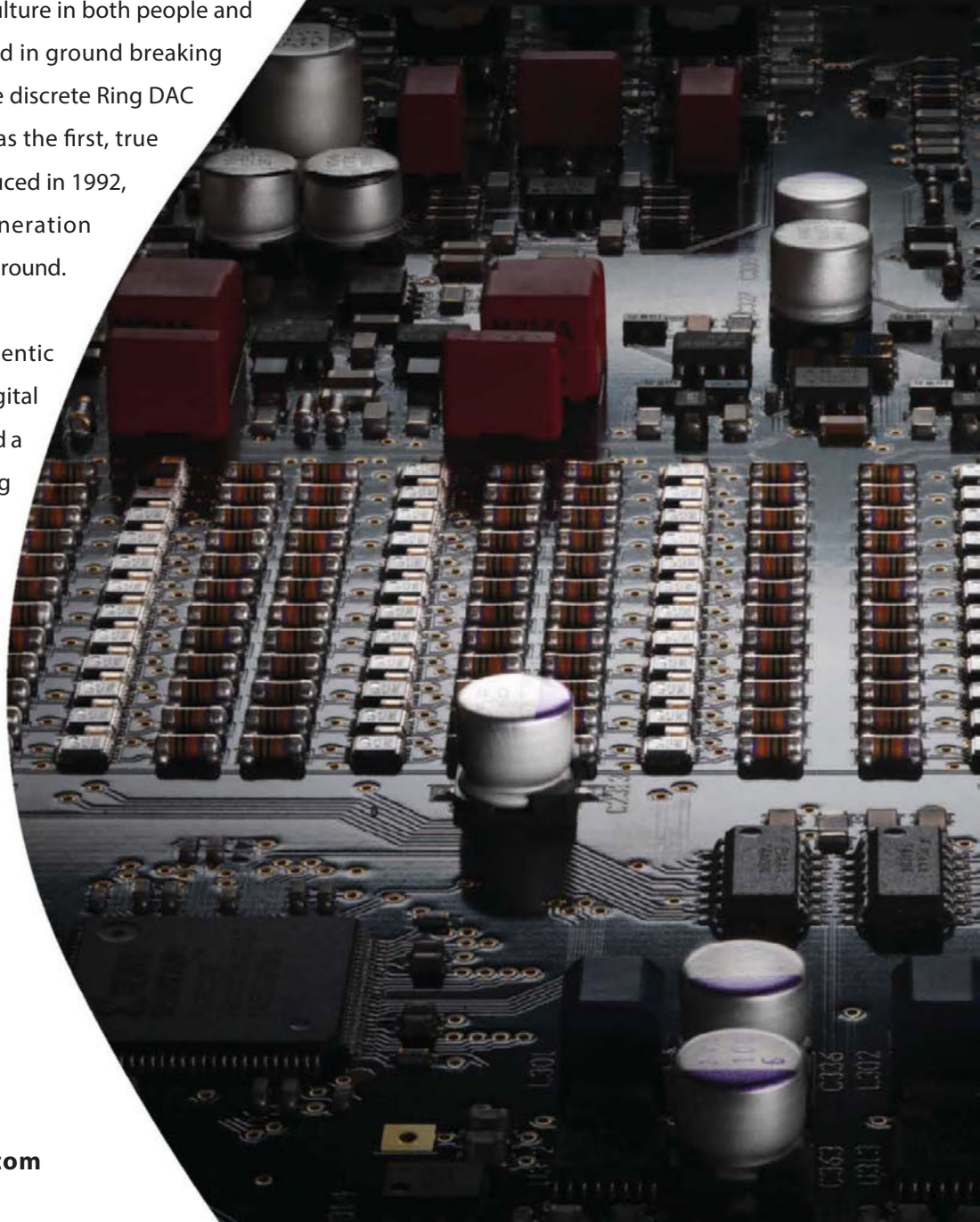
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— Art Dudley, *Stereophile*, February 2014



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ANALOG CORNER

BY MICHAEL FREMER

THIS ISSUE: Pear Audio Analogue's Blue Kid Thomas turntable and Cornet 2 tonearm.

A Pair of Pears

Pear Audio Analogue's Peter Mezek can keep you up all night spinning fascinating turntable tales. Had my mind not been numbed by Sunday evening, October 12, the last day of the 2014 Rocky Mountain Audio Fest, I might have insisted that he do just that.

Over dinner that evening he regaled Pear Audio's North American importer, Michael Vamos of Audio Skies, and me with turntable stories dating back to the late 1970s and the Linn Sondek LP12, which, until the early '80s, he distributed in Czechoslovakia. In the mid-'80s, Mezek was involved in the development and distribution of the Rational Audio turntable, designed for Mezek by Jiří Janda (pronounced *Yeerzhee Yahnda*), who died in 2000. For those of you old enough to remember, Janda, a founder of NAD, designed that company's 5120 turntable; among other features, it had a flat, flexible, plug-in tonearm that you could easily swap out, much as you can with VPI's current models.

The Czech-built Rational Audio turntable featured a tangential-tracking tonearm built into the cover of a clamshell-like plastic chassis. The arm rode on wheels that ran on a metal rod—sort of like a simplified Souther arm, which morphed into Clearaudio's tangential tracker.

Mezek told me about the time his store was visited by Linn Product's founder, Ivor Tiefenbrun. From another room, someone played the Rational turntable. When Tiefenbrun was then led into that room and heard the sound, he just about had a cow. Mezek said that Tiefenbrun took a Rational back with him to Scotland, plopped it down on an engineer's desk, and asked, basically, why Linn couldn't do a turntable this.

The NAD 5120 was actually a rebadged Tesla NC470, manufactured by Tesla Livotel, a Czech factory that

produced everything from refrigerators to vacuum cleaners. The division of Tesla Livotel that made turntables eventually became Heinz Lichtenegger's Pro-Ject factory. Mezek knew Lichtenegger from their days in Vienna, way back when. Mezek told me why he was in Vienna, but I forget. A tequila-and-hair- tonic margarita mix can do that. More recently from the Pro-Ject factory comes the E-Flat turntable, also with a flat (but not flexible) tonearm, built for the European Audio Team (EAT), whose CEO, Jozefína Krahulcová, is Lichtenegger's wife.

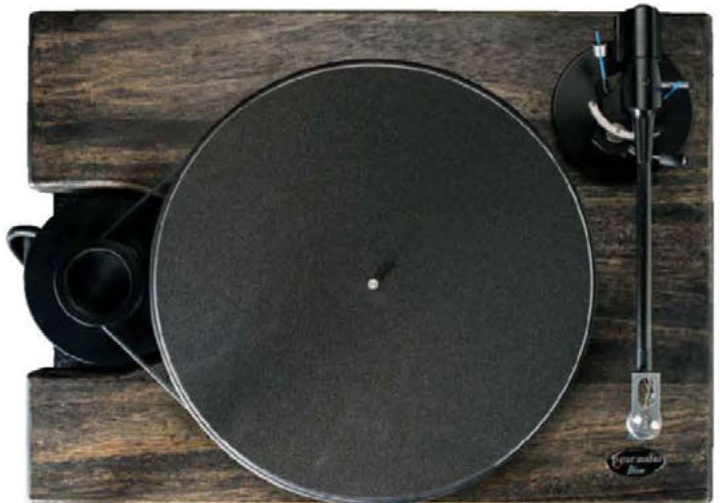
Mezek had a close relationship with the late Tom Fletcher, founder of Nottingham Audio and designer of the turntables that company produced during his lifetime. Mezek was also a longtime distributor of the Well Tempered turntable, but when the brand changed hands and Mezek found the supply of parts and manufacturer support waning, he dropped the line. Fletcher then stepped in to fill the distribution void by designing for Mezek a new turntable. The first Pear Audio Blue turntables were manufactured at Nottingham Audio's factory.

Fletcher and Mezek worked together for many years. Fletcher shared his design secrets and technology with Mezek, who shared his wide experience of handling and distributing thousands of turntables from multiple manufacturers, as well as tweaks for maximizing their performance. Before Fletcher died, he passed on to Mezek all of his design secrets. Mezek has kept alive Fletcher's ideas throughout Pear Audio's Blue turntable line, and has added some of his own. At RMAF, Pear Audio Analogue introduced their lowest-priced turntable, the Robin Hood. Every Pear Analogue Blue turntable is hand-built in Slovenia by Peter Mezek, and is subjected to extensive quality control before leaving the shop.

PEAR AUDIO ANALOGUE BLUE KID THOMAS TURNTABLE

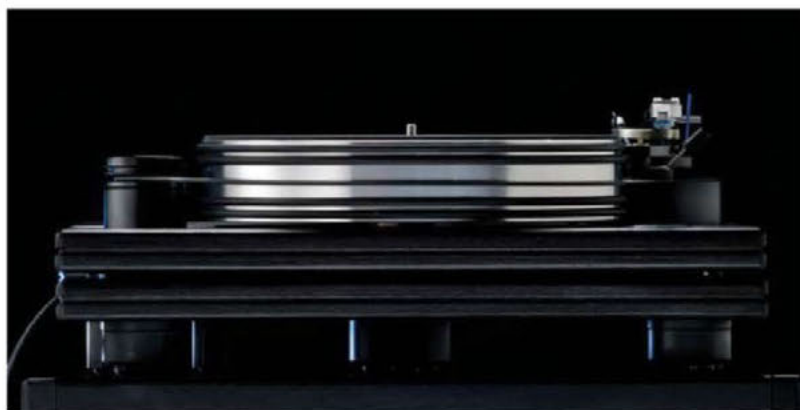
The Kid Thomas costs \$5995. Add \$1995 for an outboard power supply built by Martin Bastin that comprises a 60Hz AC sinewave regenerator and fine speed adjustment controlled with a knob on the supply's front panel.

Unpacking the Kid Thomas makes obvious the turntable's artisanal quality: lots of hand-cut foam and plastic wrap that tightly secure the double plinth, made of an attractive but unspecified wood. Elegant the packing is not! Three adjustable feet attached to the bottom of the lower plinth end in buttons of moderately soft polymer, and polymer or Sorbothane discs between the plinths provide damping and isolation. The lower plinth supports the substantial bearing assembly, which appears to be a standard bushing of brass or bronze.



The arm-mounting platform, made of acetal polyoxymethylene copolymer (POM), attaches to the upper plinth. Attached to the lower plinth and extending upward out of a circular well machined into the upper plinth is a small-diameter spiral tube made from a gray material stiff enough to support itself while remaining somewhat soft and compliant. After pouring a specified amount of a special oil into the bearing well, you lower into the bushing the spindle bearing, which is attached to the tall, full-sized 25-lb platter of aluminum alloy. The spiraled tube contacts the bottom of the platter to apply a minute amount of braking to the platter's rotation. But even with this friction applied, the platter will still rotate for a very long time. Mezek told me that the hardness of the spindle bearing varies from the top to the bottom of the shaft.

As in the Nottingham turntables, damping rings of thick, elastic rubber fit into grooves machined into the platter's rim. I tapped on the platter with a screwdriver before and after installing the rings and easily heard their effectiveness—at least in damping impulses that would otherwise cause



the platter to ring.

Driving the exceptionally heavy platter is an exceptionally puny, low-torque, 117V AC motor housed in a round POM cylinder press-fitted into a larger POM disc that sits on elastomer feet. To adjust the motor's height, you press down or push up on the cylinder. Place the motor housing beside the cutout on the left-hand side of the plinth and fit the stretchy silicone drive belt around the 33 $\frac{1}{3}$ or 45rpm pulley and the platter. Place atop the platter the thin foam record mat, and setup is almost complete.

If you read my review of Palmer Audio's 2.5 turntable in the November 2014 issue, and/or are familiar with the Nottinghams, this should sound familiar: they and the Kid Thomas all have heavy platters, low-torque motors, and Martin Bastin power supplies.

When I mentioned the Palmer 2.5 to Mezek, he involuntarily made a face, probably out of loyalty to Tom Fletcher, from whose design strategy the Palmer appears to borrow. He insisted that while both companies use Bastin power supplies, the supplies

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are not the same. Mezek said that he's using Fletcher's approved version in the Kid Thomas, and that, compared to the newer, updated power supply, there's no sonic comparison. If I wanted to hear for myself, he had both up in his hotel room. Power-supply comparisons at 10pm on the last day of an audio show? I declined.

However, if you compare the graphs of platter speed variation measurements of the Pear turntables taken with Dr. Feickert Analogue's PlatterSpeed app (figs.1 and 2 on p. 29), with those of the Palmer last November (p.33), you'll see that they *look* very different, even if the measured results are similar. The Pear's graph shows greater consistency and smoothness. The Palmer's is somewhat more spiky. I'm not sure how best to interpret what can be seen, but the Pear's visually smoother graph could be the result of the bearing, the motor controller, the spiral brake, or a combination of all three.

While the accuracy of the Feickert app has not been confirmed, and it doesn't include specific figures for wow and flutter, it does provide a level playing field for direct comparisons.

PEAR AUDIO ANALOGUE CORNET 2 TONEARM

The Cornet 2 unipivot tonearm, also designed by Tom Fletcher, is 10" long and costs \$2195. Its armtube is made of long-length (instead of wrapped) carbon fiber. The unipivot's range of azimuth is limited to near vertical by a roller bearing on the unipivot shaft and a pair of metal bars around which it rotates. Azimuth is set by twisting the press-fit headshell, and the vertical tracking angle (VTA) and stylus rake angle (SRA) are set by turning a threaded Allen bolt on the arm's mounting surface. Two slotted nylon grub screws lock in place the vertical POM shaft.

The unspecified material used to make the headshell is claimed to produce a tonearm "more sonically in phase." The lack of a finger lift is said to ensure proper balance and to prevent "uncontrolled resonances"—probably resulting from vibrations from the finger lift—from running "around the head shell."

A heavy brass cylinder press-fitted inside a curved plastic collar is used to set the vertical tracking force (VTF). It's simple, but it makes setting a



precise VTF somewhat difficult. Antiskating is set with a lever and sliding weight on one side of the armtube that exert a force on a second lever on the other side of the tube.

In short, while every parameter of the Cornet 2 is adjustable, a few are not easily set—the usual tradeoff in a moderately priced arm.



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FINE SOUNDS

I found Pear Analogue's description of the Cornet 2 long on hyperbole and short on technical detail: unspecified are the arm's length, effective length, offset angle, and mass. This information should be provided for every tonearm. The instructions, too, are incomplete. There's no mention of how to set antiskating, and after instructing users to tighten the collet setscrews after lowering the arm stem into the shaft, Pear fails to remind them to loosen the screws before turning the Allen bolt to adjust VTA and SRA. The instructions for setting up azimuth and VTA are rudimentary: Azimuth is correctly set when the headshell is parallel to the record surface (not), and VTA and SRA are correctly set when the arm is parallel to the record surface (not). I understand that these are only baseline starting points, but the instructions should be more detailed. A video sent on a USB stick shows antiskating being set using a grooveless record (*not*).

The phrase *press-fit* recurs often in the descriptions of tonearm and 'table. Where screws *are* used—eg, the grub screws that hold the arm shaft rigid in the POM armboard—they're of nylon, not metal. In fact, other than in the platter, bearing, and headshell, there is very little metal and screws are few.

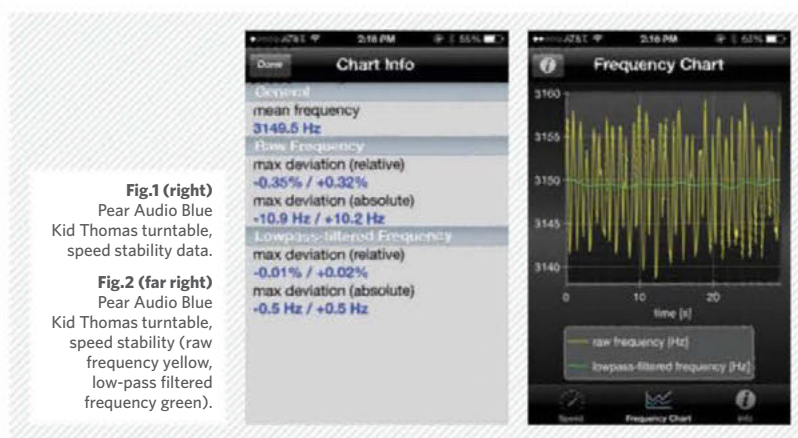
When tapped, the Cornet 2 transmitted only a very faint sound. It clearly is better damped than the Origami PU7 arm supplied with the Palmer 2.5 turntable, which together cost \$11,990. Purchased as a package, the Kid Thomas, Cornet 2, and Bastin power supply cost \$9995 (a \$190 discount)—or \$7995 (a \$195 discount) without the Bastin supply.

While the Palmer's plinth doesn't pass along much in a thump test, the Pear's was as lively as the Origami arm. At a moderate volume level, even a mild tap produced a fairly loud, broad-range, drum-like, almost hollow-sounding *thump* through my speakers.

A sonic comparison of the Pear and Palmer seemed therefore valid, especially considering that I listened to the Pear directly after the Palmer, and the two share similar design philosophies.

Smooth, Evenly Balanced Sound

I used some of the same cartridges that I used in the review of the Palmer 2.5 turntable and Audio Origami tonearm—the Lyra Etna, Atlas, and Titan *i*, and Ortofon's Quintet Black and



A90—and added Miyajima Labs' Mada-ke, which I reviewed in December. And I played, among others, the same records I'd used for the Palmer review.

As I'd done with the Palmer, I began with the Lyra Etna. The Etna sounded too rich for me in the Kid Thomas and Cornet 2, but the Titan *i* and Atlas produced better overall balance; both of the latter are somewhat leaner in the mids, and somewhat faster and more extended on top.

Because the Pear 'table is a Tom Fletcher design, after listening but before writing I reread my reviews of Nottingham Audio's decks. In the February 2003 issue I reviewed the budget Horizon model, fitted with a Rega Research RB-250 arm, and found it a "smooth-sounding" performer that was impressive for the money (\$1000). I had Nottingham's \$10,000 Annalog 'table and arm in for a listen, and found the sound soft, diffuse, and uninvolving.

In July 2005 I reviewed the Nottingham Deco, with Ace-Anna arm and Deco power supply (\$38,499). The Ace-Anna was yet another variant of the "stabilized unipivot" common to Nottingham arms. The less expensive stabilized-unipivot Ace Space arm looks more similar to the Cornet 2, particularly its brass counterweight and the plastic collar in which it slides, though in the Cornet 2 POM replaces most of the Ace Space's metal.

In my 2005 review, I compared the Deco and Ace-Anna with the Simon Yorke S7 turntable and arm, using the Titan *i* in both. I "didn't recognize" the Titan in the Deco/Ace-Anna combo, describing its sound as "soft, indistinct. Transients were smoothed over, details lost, and the entire presentation lacked sonic involvement."

When I swapped out the Ace-Anna for the Graham Engineering 2.2 arm

(that gives you an idea of how long ago this was!), the Deco sprang to life. I ended up thinking that the sound and the fit'n'finish of the Deco, Tom Fletcher's "statement" product at that time, weren't worth the money, and posited that the Nottingham Dais (\$7499 without tonearm) was the line's sweet spot. Now, years later, here was a similarly priced Fletcher design—his final thoughts on turntable and tonearm design—a turntable-tonearm combo that sounded just as I'd described the Deco and Graham nearly a decade before: "The Deco's overall personality was elegant and deliberate, with an inviting underlying warmth. . . . Familiar music seemed to come out of the grooves with a slight honey coating."

However, that's how the Pear sounded with the Cornet 2, not the Graham arm. Though a great deal of time has passed since I last heard the Ace-Anna and the far more expensive Deco, I suspect that the Cornet 2 is faster, leaner, and better focused, despite the many similarities of construction. Chalk it up to the substitution of POM for metal or to the modified bearing and damping fluid. Or did the Kid Thomas, too, contribute to the better focus and faster overall sound?

For whatever reason or reasons, the Pear Analogue Kid Thomas turntable and Cornet 2 tonearm produced a rich, expansive midrange and a smooth, neutral tonal balance. The phrase *rich and creamy* came to mind. Bass extension was good, if not the last word; and though high-frequency transients were clean, they weren't as sharp and fast as can be had, even from other 'tables at similar prices. The top end never glistened, and that's how many listeners like it.

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But even if a bit overprominent, that midrange was something special, with black backgrounds and tape-like musical flow and drive. With no hard edges sticking out and no obvious faults, the combo's sins were of omission, and made for a smooth musical ride. The macrodynamic presentation was very good, but again, other tables, many of them more expensive, produce greater slam, as does one at a similar price: the VPI's Classic 3 (\$6000). But only with VPI's 3D-printed arm (\$3000) would the Classic 3 approach the Pear's tonal neutrality and smoothness.

I can't be 100% certain without a direct A/B comparison, but I'd say that the Palmer Audio 2.5 with Origami arm and the Pear Audio Analogue Kid Thomas with Cornet 2 arm have very similar sounds, the latter being slightly less dynamic but somewhat smoother overall, and with greater drive and perceived speed stability.

Regardless of which cartridge I used, the types of music I most enjoyed through this pair of Pears were classical, acoustic jazz, and female voices. Interpreti Veneziani's recording of Vivaldi's *The Four Seasons*, recorded

at AIR Studios in London with all-tube microphones (LP, D2D VALDC001), was reproduced with an ideal blend of string sheen and wood. The Pear Analogues' sound was ideal for jazz singer Cécile McLorin Salvant's *Woman Child* (LP, Mack Avenue 1072) but was less so for rock, though amplified music was never seriously shortchanged. But if the latter is what you mostly listen to, look elsewhere, for something with more grit, slam, and punch.

Conclusions

Writing back-to-back reviews of two turntables with wooden plinths, and heavy platters driven by small, low-torque motors, was a pure coincidence. That they sounded more similar than different probably is probably no coincidence at all. For some, Pear Audio Analogue Blue's Kid Thomas turntable and Cornet 2 tonearm will sound too damped and rich in the mid-range. Others, especially those who listen mostly to classical and acoustic jazz, will find its rich, smooth sound ideal. Just be sure to match the Pears with a "fast," well-extended cartridge and a phono preamp with appropri-

ate rhythm'n'pace abilities, or it might sound a bit sluggish. On the other hand, if you like your sound thick and rich, you can have that too.

Whatever they may be, the improvements that Tom Fletcher made to his final design have resulted in better-focused, more transparent, faster-paced sound. Many who are looking to spend just under \$10,000 for a smooth, refined sound from their LPs will find the Kid Thomas and Cornet 2 visually and sonically appealing. ■

Michael Fremer (fremer@analogplanet.com) is the editor of *AnalogPlanet.com*, a website devoted to all things analogical.

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LISTENING BY ART DUDLEY

THIS ISSUE: Art returns to the Abis SA-1 tonearm from Japan.

Once more unto the Abis

Kids, you tried your best and you failed miserably. The lesson is: Never try.

—Homer Simpson

Months ago, as we put together the most recent installment of “Recommended Components,” Phillip Holmes, of Mockingbird Distribution, got in touch and asked if we would please remove from our list the Abis SA-1 tonearm, which Mockingbird distributes (and which I first wrote about in our March 2014 issue). As it turns out, Abis is making some changes to the arm, and Holmes didn’t think it would be right to let the recommendation endure until we’d had a chance to try the new one.

In most instances, when an equipment supplier wishes to discuss “Recommended Components,” his or her intent is to protest or to try to prevent an item’s removal, or to get us to bump it up a notch or three. Requests to remove an entry as an act of conscientiousness (as opposed to pique) are rare.

File that away.

Smart S

As I learned from a more recent e-mail, the revision of the Abis SA-1 is nearing completion. In the meantime, Phillip Holmes has sent me a review loaner of another new Abis tonearm, the TA-1L (\$1999): a transcription-length arm with an altogether more traditional appearance than that of its blockier stablemate. (The SA-1 looks like other tonearms in the same way Rock-’em Sock-’em Robots look like real people.)

The Abis TA-1L has an S-shaped armwand of polished aluminum tubing; its removable headshell, bearing cradle, bearing cover, and most of its structural elements are machined from solid aluminum. The headshell is anodized in semigloss black, while those other parts have a textured finish. The arm’s vertical bearings are

cup-and-point types similar to the ones used in various EMT tonearms, while its horizontal bearings are of the miniature ball-and-race sort used in all positions of the Abis SA-1.

Vertical tracking force (VTF) is applied statically, with a two-piece counterweight of the usual sort; the weight is calibrated only to 2.5gm, but VTFs of up to 5gm can easily be set. Also incorporated into the design is a spring-actuated antiskating device that looks identical to the one used in the SA-1; this is calibrated up to 3gm, with no provision for higher forces—which is reasonable enough, since the need for bias seems to diminish at greater-than-average VTFs, especially with tonearms whose offset angle is more modest than the norm.

Abis specifies for the TA-1L a spindle-to-pivot distance of 310mm; that, combined with the recommended overhang of 15mm, produces an effective length of 325mm, which is closer to 13" than 12". On both the Mockingbird Distribution website and in the installation manual that accompanied my review sample, Abis describes the arm’s offset angle as 22°, but that seems unlikely. First of all, the angle simply doesn’t *look* that wide—an unscientific observation, I know, but there it is. More to the point, an angle of 22° is also specified for the 232mm (9.05") version of this arm, the TA-1—and, all other things being equal, the longer the tonearm, the smaller its offset angle can be, which is the whole point of making them long in the first place.

The SA-1 looks like other tonearms in the same way Rock-’em Sock-’em Robots look like real people.



New arm for the old turntable

One afternoon, I set about listening to a few records with Ortofon's SPU 95 pickup head (which I reviewed in December 2014) installed on my Thomas Schick Tonearm—itself engineered for Style G pickup heads—on my Thorens TD 124 turntable. Then I removed the Schick and its armboard, drilled a fresh poplar board for the Abis, and installed the TA-1L with the same Ortofon pickup. While doing so, I was impressed by the build quality of the reportedly handmade Abis, and of its bearings in particular: In both planes of movement, the TA-1L's bearings were completely free of excess play, yet commendably friction-free.

The Abis contributed to a more detailed and slightly punchier sound than the Schick. The nylon-string guitar that opens "Who By Fire," from Leonard Cohen's *New Skin for the Old Ceremony* (LP, Columbia C 33167), was a smidge more forceful than with the Abis in my system; similarly, electric bass, percussion, and the twin lead vocals had a better sense of presence—and, in the case of the voices, of texture. With the TA-1L, the recording's overall timbral balance

had shifted upward ever so slightly, but without excess bite or brightness.

I was also impressed with how the Abis arm pulled up from the (noise) floor the quietest pianissimo phrases in the slightly odd recording,¹ by Lorin Maazel and the Vienna Philharmonic, of Bruckner's Symphony 5 (LP, London CSA-2238). More than in any other Bruckner 5 I've heard, the very first measures are, at normal volume settings, scarcely audible; the Abis gave my system the extra detail and focus needed for me to discern what was going on. Much the same was true of the well-known recording of Britten's *War Requiem*, with the composer conducting the London Symphony Orchestra *et al* (LP, London OSA 1255). On the other hand, the Abis missed a slight degree of the depth and weight that the Schick arm found in the sounds of brass, double basses, and drums.

A pause for a cartridge change offered the chance to use my evergreen DB Systems DBP-10 protractor to check the combination of Abis TA-1L and Ortofon SPU 95 for any errors in tracking angle. I was mildly surprised to see that lateral tracking angle strayed somewhat from the

Baerwald alignment standard on which the DB protractor is based—although it was definitely in the ballpark.

That prompted me to double-check the arm's spindle-to-pivot distance, which I had established by using the installation template included with the Abis. The specs call for a spindle-to-pivot distance of 310mm, but my installation showed 308mm—and I was really careful! Desperate to preserve my self-esteem, I measured the Abis template itself—a plastic strip with a spindle hole at one end and a marking-pin hole at the other—and found it to measure only 308mm from hole to hole. Well, heck, there's my problem right there.

Or part of it. By loosening two of the three bolts that hold my armboard in place, I was able to pivot the board and gain the extra 2mm. But the alignment, while closer to the mark, remained imperfect. It was clearly time to read the instruction manual—and it was there that I found, not in the text but in a very small illustration, another clue: According to Abis, the distance between the headshell collet and the

1 But aren't they all (the good ones, at least)?

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stylus tip of a properly aligned cartridge should be 50mm. That's all well and good, and a 50mm distance should be easy to achieve when installing a standard-mount cartridge in the TA-1L's own headshell. But the stylus-to-collet distance of the average Style G pickup head—*ie*, virtually everything in Ortofon's SPU line—is 52mm.² Heck, there's the *rest* of my problem.

And let the record show: Neither Abis nor Mockingbird has promoted the TA-1L as a tonearm expressly designed for use with Style G pickup heads. I just sort of assumed.

Eventually, I rea auditioned the above tracks with the armboard positioned for correct alignment with the Style G Ortofon SPU 95. My observations didn't change appreciably, but my sense of well-being—or, more to the point, my confidence in the well-being of my records—improved considerably. My self-esteem remained high.

Back to Mono

Lessons learned, I set about installing my Miyajima Premium BE Mono cartridge in the TA-1L's headshell. The Miyajima has always excelled at sheer punch, a respect in which it is bettered,

in my experience, only by EMT's now-discontinued OFD models. The Abis tonearm allowed the Miyajima to retain that quality, and also to shine as a detail-retrieval champ of the first order. I'm sure I've listened hundreds of times to "Repent Walpurgis," from Procol Harum's eponymous debut album; yet while spinning a mono reissue of same (LP, Regal Zonophone/Classic LRZ 1001), I was surprised to hear that, during the first half of Robin Trower's guitar solo, pianist Gary Brooker plays, behind the Cm and E-flat chords, a five-note figure that duplicates the rhythm of Dave Knights's electric bass line—the first time I'd noticed it! (In fact, until the middle of the song and Brooker's quote from Bach's Prelude and Fugue in C, BWV 846, the piano part is not very high in the mix.)

The downside: The Abis TA-1L, though commendably detailed, was slightly lighter in the bass than my Schick—and, for that matter, than my memory of the SA-1. With the TA-1L shepherding my cartridge across Procol Harum, neither B.J. Wilson's kick drum nor Knights's bass had quite the fullness or impact I'm used to hearing from my system; I heard a similar

effect with other records.

The SA-1 had no less treble content than its S-shaped sibling, yet that extension was balanced by a stronger bass register—or so it was with the cartridges in my collection. One should bear in mind that Abis designed the SA-1 as a 9" tonearm of higher-than-average mass, in which sense it is suited to such lower-compliance pickups as the Ortofon SPUs and Denon 103s of the world: things I flat-out love. It's my impression that the TA-1L—and, I presume, the shorter TA-1—are aimed at hobbyists who will use a greater variety of cartridges, including those of medium and medium/high compliance.³

Replacing arms isn't brain surgery

As one who prefers to do all of his own setup work, including drilling and occasionally making my own mounting boards for the various tonearms that come my way, I've

² An Ortofon Technical Data sheet dated 3/2/1994 suggests that this dimension should be 51mm. Because I'm an alignment nerd, I have measured every Ortofon Style G pickup head to come my way, and the overwhelming majority of them have measured 52mm or very slightly more.

³ Replacing arms isn't brain surgery.

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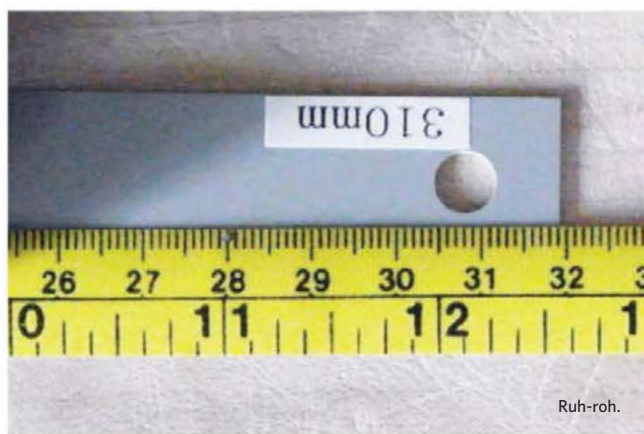
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been forced to come up with a few shortcuts. One of them is a method, discovered by accident, for measuring tonearm spindle-to-pivot distance with reasonable precision, when the need arises to either locate an arm-mount collet in a new installation or check for the correct position in an existing setup. Rooting around in my parts bin one day, I happened on a spike from an old set of Linn Isobarik speaker stands. Mind you, this wasn't the sort of scanty, skinny spike that would confound a listener's ability to hum along with his or her Ben Sidran records, but rather a proper, thick slug of a thing with a neat little point at its presumed center.

The first thing that entered my mind when I saw it: *This looks awfully close in diameter to the mounting pillar of my EMT 997 tonearm.*

Blessed with a couple of spare EMT collets, I soon discovered that the Isobarik spike was only a smidge too fat. I set about shaving off said smidge, after which the diameter of the slug and that of the tonearm pillar were one and the same. While I was at it, I

machined a round notch—one half of a $\frac{1}{4}$ "-diameter hole—from the edge of a metal metric ruler I had, making sure that the center of the hole was aligned with the ruler's zero mark.

The next time I came across an Isobarik spike—this time in my desk drawer, for God only knows what reason—I trimmed it to size for the arm-mount collet of my Schick tonearm: pressed to a higher calling. To this day, with one or the other of my modified spikes snugged into an arm-mount collet, and with the spindle of my turntable snugged into the semicircle I made for it at the zero mark of my ruler, I can measure spindle-to-pivot dimension to the nearest half-millimeter. *Easily.*

There's a point to this, beyond merely illustrating my fanaticism: The first thing that greeted me on opening the carton for the Abis tonearm was an installation tool similar to my own attempt at same. This new one is a cylinder, machined from acetal, the diameter of which matches that of the TA-1L's main pillar. Its center is drilled and fitted with a short metal rod about 4mm in diameter, with a point at one end: This is the marking pin that I used, in tandem with the above-mentioned plastic template from Abis, to show me where to drill the main mounting hole—but, when inverted, the point makes it easy to check spindle-to-pivot distance. Great minds and all that . . .

It might seem reasonable to wonder if the need for all this fiddling is really so severe—especially for a hobbyist like me, the majority of whose phono cartridges forgo such modern stylus shapes as elliptical, hyperelliptical, Replicant, Vital, and van den Hul in favor of the simple spherical (aka conical) tip. Consider, too, that many

of my LPs and all of my 78s are monophonic, with grooves that some regard as more forgiving than stereo grooves of cartridge-alignment error. One would think a bit of slack could be cut—until one considers that H.G. Baerwald's "Analytic Treatment of Tracking Error and Notes on Optimal Pick-up Design" was published in 1941: before elliptical styli, before stereo, before the microgroove LP itself.⁴

In spite of all the trouble, in spite of the fact that minute changes in overhang and offset angle don't always produce immediately obvious changes in sound, I believe this sort of care should be taken by all serious record lovers. And in spite of the small glitch in their installation template, which would seem easy to correct, Abis and Mockingbird Distribution both seem committed to achieving alignment perfection—or at least as close to perfection as we can come in this world.

I continue to look forward with pleasure to the return of the bigger-bottomed Abis SA-1, the sound of which fit my Thorens TD 124 hand-in-glove. But in the here and now, the TA-1L is a well-made and distinctly recommendable product: a distinctively well-detailed transcription-length tonearm for a fair price. Just remember that it may require an extra bit of attention in setting up.

Why I no longer use glue traps

Every year, it's something new. In 2003 we were overrun with ladybugs (none of whose houses were actually on fire, as it turned out). The next year it was

⁴ As Keith Howard reminds us in his indispensable article "Arc Angles," published in *Stereophile's* March 2010 issue, the challenges posed in playing lateral-cut records with pivoting tonearms were described as early as 1924, by the great Percy Wilson.

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katydid. Then milk snakes. Then phoebes. Then tent caterpillars. Then very small toads. Then God knows what else. One summer we actually found five stick insects, which qualifies as an infestation on the order of dust-bowl locusts.

As I write this, we are losing the battle with field mice—who, having conquered the shed, seem to have found a new way into the house. Things have not been pleasant.

Things were apparently not pleasant in the past. The people who owned this house before us—they used it only as a summer-weekend retreat—loaded it up with d-Con. I still find little bits of it here and there, the garish blue pellets having been stored in our walls by mice who were equal parts prudent and pig-ignorant.

For a long time I refused to go along, for two reasons. First, there are foxes and owls and a bobcat or two on our property, and field mice are a part of their complete breakfasts: I find the very strong possibility of secondary poisoning abhorrent. Second, it just isn't fair. I have found evidence that some mice in our house were taking d-Con pellets outside, and we found

at least one neighborly chipmunk who succumbed. That was a sadder-than-hell day, let me tell you.

One Saturday two months ago, I heard my wife and daughter both cry "Eeek!" at the same time. I came running. They said a mouse had run past them *and the dog*, and then scooted under the closed door leading to my hi-fi room, from which there is no other obvious exit. So I put a glue trap in every corner of that room. Then I forgot about mouse and traps alike.

I forgot about them until one day about a month later, when it was my turn to cry "Eeek!" There is one place in my room, to the right of my Box Furniture rack, where speaker cables and AC cords alike lay coiled on the floor. And there was the mouse, whom I had once imagined sleeping peacefully in one of the reflex ports of one of my DeVore Fidelity Orangutan O/96 loudspeakers. Instead, he'd gotten his hind legs caught in a glue trap, and had used his forelegs and his last minutes on Earth to drag himself and the trap into that tangle of wires. Rather than describe the nearly day-long cleanup project before me, I will draw across the scene a Curtain of Charity.

Screw fairness: I'm going d-Con. This is war. Besides, while not meaning to go all H.P. Lovecraft on you, I think there's Something in the wall. Something that sounds bigger than a mouse.

And another thing

Hot on the heels of his new graphite headshell (see "Listening," November 2014) comes more news from tonearm designer and manufacturer Thomas Schick: Beginning in 2015, he will resume direct US distribution of his products.⁵ For a number of years those duties have fallen to Oswalds Mill Audio, whose Jonathan Weiss introduced me to the Thomas Schick Tonearm—which, ever since, has been listed in "Recommended Components." Of OMA, Schick says, "[Our] target groups are going in different directions," and so the change is to everyone's benefit. We wish both companies well. ■

Art Dudley (art.dudley@sorc.com) wages war against small mammals in snowy upstate New York.

5 Thomas Schick, Dorfallee 47, 16559 Liebenwalde, Germany. Tel: (49) 33054-69-36-38. Web: www.schick-liebenwalde.de.

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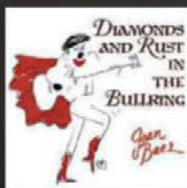
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AUDIO STREAMS

BY MICHAEL LAVORNA

THIS ISSUE: ML hangs with network players from Simaudio and Auralic.

Computer Audio without Computers

Everything these days has a computer inside it, but you wouldn't call a car a computer. Same goes for music streamers—what we at AudioStream.com also call network players. While a network player has a computer inside, I don't consider it a computer because it's designed to do just one thing: play music.

A network player connects to your home network via Ethernet or WiFi, searches for network-attached storage (NAS), looks for the Internet to connect to streaming services, and serves up all of this music through an app that typically resides on a smartphone or tablet. The theory goes that, being purpose built, a dedicated network player should sound better than a full-blown computer, the latter's multitasking abilities degrading its ability to get us to dance, literally or figuratively.

I know that Ethernet and hi-fi make an unlikely pairing in some people's audio ecosystems. I also know that the notion that what kind of Ethernet cable you use can affect your system's sound will rattle some folks' assumptions. However, my experience has shown that different Ethernet cables do sound different. I've found that AudioQuest's Ethernet cables—even their cheapest, the Pearl (\$29/1.5m)—sound better than basic Belkin. I think it has something to do with system noise, but that's really just a guess.

I mention this because Ethernet is likely what you'll use to connect your storage device to your network player. Some souls on the cutting edge may choose to go wireless. That's right—WiFi, too, has entered the High End, and some products, such as the Devialet D-Premier D/A integrated amplifier,¹ use WiFi with no apparent degradation of our beloved musical signals.

In this column I focus on two network players, each offering a different set of services but both designed to serve up music without the aid of a computer. But before

we dive in, let's talk about network attached storage.

NAS

Storing a music library is step one of computer audio. While you can store your music on your computer, it's not recommended for many reasons, including sound quality. Basically, the more you ask your computer to do in addition to playing music, the worse your music will sound. So it's common practice to store your music on an external hard drive or network attached storage (NAS).

A NAS device connects directly to your router or network switch via Ethernet. As such, it's available to every computer or network player on that network—you can stream your music to multiple devices simultaneously from the same NAS. If you're interested in playing music in more than one room of your house, a NAS is the way to go.

NAS devices come in all shapes and sizes. I prefer Synology and QNAP NASes for their robust build quality and excellent apps, but there are many others on the market. You can buy a single- or a multi-bay NAS, depending on your storage needs. I prefer multi-bays because you can set them up in what's called a redundant array of independent disks (RAID)—a measure of protection in the event of a hard-drive failure. While a RAID is no substitute for a real backup to an external drive, the ever-falling price of data storage makes running a RAID a no-brainer.

As we'll soon see, if you want to get fancy and do something like stream DSD files from your NAS, your NAS must be able to do that. Thankfully, there are free apps, such as the DSD-capable MinimServer, that come preinstalled on Synology and QNAP NAS devices; all you have to do is activate them.

Of course, you can skip a NAS and set up your external hard drive as a network drive—but to play music, you'll have to have the computer it's attached to up and running, and the whole idea of getting a network player is to avoid that. I suggest that you consider a NAS device an essential part of your network-playing hi-fi system.

¹ The Devialet D-Premier (\$15,995) was reviewed by John Atkinson in the December 2012 issue: www.stereophile.com/content/devialet-d-premier-da-integrated-amplifier.

SIMAUDIO MiND (\$1300)

Simaudio's Moon intelligent Network Device (MiND) is UPnP/DLNA-compatible and offers Ethernet (100Base-TX/45) and WiFi (IEEE802.11b/g/n) inputs. Universal Plug and Play (UPnP) and the Digital Living Network Alliance (DLNA) are basically initiatives to get different networking hardwares to talk to one another. Through the use of UPnP, a device like the MiND can automatically discover NAS devices—and it did just that as soon as I connected it to my network.

Looking at the MiND's backside, you'll notice that there are only digital outputs: the MiND has no digital-to-analog converter (DAC). These outputs are: AES/EBU, coax S/PDIF, and TosLink. All outputs are capable of supporting up to 24-bit/192kHz PCM data, as well as WAV, FLAC,



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AIFF, AAC, ALAC, MP3, WMA-9, and OGG Vorbis file formats. The MiND also supports gapless playback. In terms of streaming services, the MiND is currently capable of streaming from vTuner Radio. Additional streaming services may be added in the future.

The MiND also sports a SimLink In/Out, so that the MiND app can also control input selection, volume, and power on/off on a Simaudio preamplifier or integrated amplifier. There are also inlets for the WiFi antenna and DC (a wall-wart power supply is included).

The MiND's front panel is nearly empty except for the Simaudio logo, the model name, and a blue power LED. That's because all of the business of controlling the MiND is accomplished through the robust Simaudio app. I used my trusty iPad to run the app, but other iOS devices will work.

The Simaudio app is designed around the notion of playlists. Your music library can be browsed by Album, All Artists, All Tracks, Composer, Conductor, Orchestra, Untagged, and Folder View. These views vary depending on the NAS you connect to—or, more specifically, which NAS server software you use. For example, when I connected to my Western Digital NAS running Twonky, I was also presented with Genre and Playlists options.

To hear music, click on the album or track you'd like to play. If you click and hold your finger over your selection, you're presented with a number of options, including Top, Now, Next, and End. Top puts your selection at the top of the Playlist, Now plays it now, Next puts it after the current track, and End appends it to the end of the current



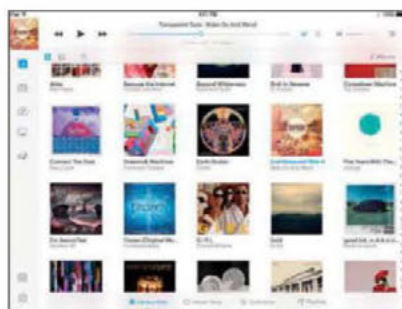
The Aries is made from plastic, to allow efficient WiFi operation; its app, called Lightning, runs on iOS and Android devices.



Playlist. You can save Playlists by clicking on the Playlist icon and tapping Save, which brings up the keyboard so you can name and then save it. There's also an Edit option that lets you remove tracks from the current Playlist.

I prefer Album view and just clicking and playing, as opposed to making and saving Playlists, but that's just me. I also tend to listen to complete albums instead of individual tracks, another apparent generational quirk. Regardless, I found the Simaudio app a pleasure to use, and it handled my library of more than 1000 albums without a hitch.

Listening to the MiND was pretty much pure pleasure. I connected it to my network switch with a length of AudioQuest Diamond Ethernet cable, and to the Auralic Vega digital audio processor via AES/EBU. The Vega was in turn connected to my Pass INT-30A integrated amp, which powered a pair of DeVore Fidelity The Nines speakers. Compared to my stock MacBook Pro running Pure Music 2 or Audirvana, the MiND appeared to offer a lower noise floor—there were greater senses of microdetail and dynamic contrast in Tom Waits's *Alice*



(CD rip, Anti-). There was a newfound purity to the sound of my NAS-based music that made possible a more musically engaging experience.

When I tried the MiND's WiFi connection, I found that I could play without problem files of resolutions up to 24/88.2, but higher resolutions had frequent dropouts. Because 24/176.4 and 24/192 files are part of my regular playlist, that makes the Simaudio MiND a wired device for my purposes. But WiFi performance is notoriously site specific; your mileage may vary.

The MiND delivered my music with a nice sense of body. Even relatively simple fare, like Muddy Waters's *Folk Singer* (24/192 from HDtracks, Chess), revealed and reveled in the MiND's greater sense of physicality and detail over the MacBook Pro. There was simply more there there.

AURALIC ARIES WIRELESS STREAMING BRIDGE (\$1599)

At its debut, at the 2014 Consumer Electronics Show, the Auralic Aries caused a stir by showing off its ability to stream up to double DSD (DSD128) via WiFi. To stream DSD64 and DSD128 over WiFi, Auralic recommends using a router with 802.11n MIMO support—and if you plan to run multiple Arieses around your home, they recommend bumping up to a high-end router such as the Netgear R6300 or Nighthawk R7000, or the ASUS RT-AC68U. I use an ASUS RT-AT66U, and it worked

without a hitch with Aries's most recent firmware update (v.1.6). And because the NAS also must support DSD, I loaded the MinimServer software on my Synology DS412+ NAS.

The Auralic Aries houses a Quad-Core ARM Cortex-A9 processor running at 1GHz with 1GB DDR3 onboard memory and 4GB of internal storage. The Aries supports the OpenHome standard as well as UPnP, the former permitting more ambitious multiroom options, including shared on-device playlists. Inputs include dual-band WiFi, Ethernet, and USB that Auralic says will, with a soon-to-

arrive firmware upgrade, accommodate reading from USB storage. The Aries supports PCM formats up to 24/384, DXD, and DSD64 and 128. Supported file formats include AAC, AIFF, ALAC, APE, DIFF, DSF, FLAC, MP3, OGG, WAV, WV, and WMA. The Aries also supports gapless playback.

Like the Simaudio MiND, the Aries has no DAC. Its digital outputs are USB, TosLink, coax S/PDIF, and AES/EBU. The Aries's curvaceous body is made of injected-molded plastic, partly because Auralic wanted to do away with WiFi antennas—they're built into the body. Up

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front is a display that shows limited information, including the number of the track currently playing and the number of tracks in the current playlist. The review sample's display made a slight buzzing sound that was audible only when my ears were within a few inches of it. Auralic reports that this noise will be lessened with a future firmware upgrade. In the meantime, users can disable the display entirely, and thus the noise.

The Aries had no trouble finding my NAS devices. The Aries supports Songcast, which allows you to stream content like Spotify from your computer to the Aries. It also supports the lossless streaming services Qobuz and WiMP/Tidal, and my time with it coincided with my trial subscription to Qobuz. I covered Qobuz in detail in the September 2014 "Audio Streams"; here I'll say only that the notion of buying a hi-fi component and getting immediate access to a multi-million-album library in CD-quality sound lights my fire. Norway's Tidal service, based in Oslo, is also coming to the US this year (for about \$20/month)—and while I'm on the subject, Deezer, another lossless-streaming service, announced a deal with Sonos to deliver CD-quality streaming to the Sonos system. I see lossless streaming as a big part of our musical future.

Auralic's app for controlling the Aries, called Lightning DS (v.1.3), is currently available for iOS devices; an Android version is in the works. Lightning DS is playlist-based; you can view your library by Library, Folder, Collection (think Favorites), or Playlist. You can also browse in various sort orders: Album, Artist, Composer, Date, Genre, and Tracks. I stuck with Album in Library view.

To play music, you just touch and hold your finger over the desired album cover or track. A window pops up offering options: you can Add your selection to Collection, Queue,

The Auralic Aries caused a stir at the 2014 CES by showing off its ability to stream up to double DSD (DSD128) via WiFi.

or Playlist. If you just want to play it now, select Queue. Another window opens, with the option to Play Now. You can also add a selection to the current playlist, to be played next (after the current song) or at the end of the playlist.

I used the Aries's USB output to connect it to the Auralic Vega; the rest of my system remained unchanged from the Simaudio MiND setup. I tried wired and wireless connection; in this case, WiFi worked fine for all of my music, even DSD128, so I did most of my listening via WiFi.

The Aries presented a seemingly lower noise floor than my MacBook Pro. There was a sense of greater resolution, and an increase in dynamic snap similar to what I'd heard with the MiND. While I found that the Simaudio offered a slightly fuller-bodied sound, the Aries won in terms of services, I find lossless streaming to be a must-have option for a network player these days, and some people may prefer the Auralic's more straight-ahead and resolute sound.

I played all manner of music through the Aries. Something like Miles Davis's *Kind of Blue* (24/192 mono, Columbia/Legacy/HDtracks) sounded particularly lovely. Each player was given his own space, and the tone and voice of each instrument shone through loud and clear. With more challenging and dense music, such as the electronica of Lucrecia Dalt's *Commotus* (Human Ear Music),

the Auralic's deft unraveling of all of the sounds made for an engaging trip. John Coltrane's *A Love Supreme* (DSD64, Impulse!/Acoustic Sounds) was pure energy, DSD delivering the dimensionality and natural sense of flow and dynamic swing that it tends to do so well.

Picking a Network Player

Lossless streaming is a must-have item on my personal-network-player checklist, and in this two-player race, the Auralic Aries wins my heart and mind. If you'd be happy playing just PCM data up to 24/192 and streaming from Internet radio, and having full control over your entire Moon system via the MiND app, Simaudio's MiND is a great choice. If you want the whole enchilada, with DSD128, the Qobuz and WiMP/Tidal lossless-streaming services, and Internet radio, the Auralic Aries is a greater choice. ■

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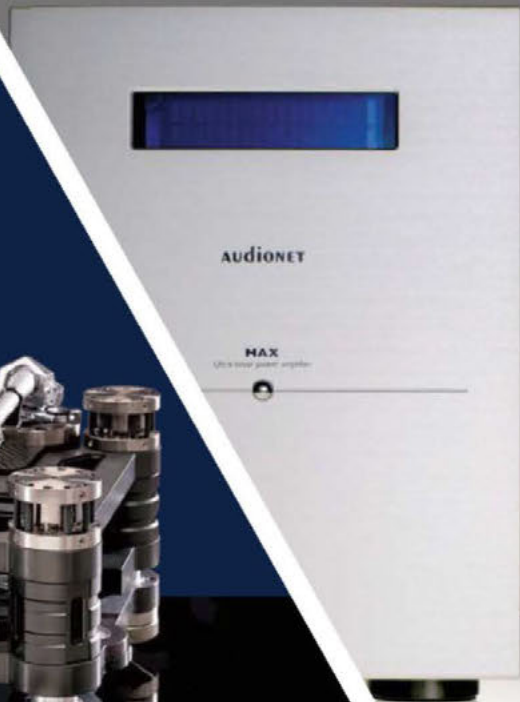
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MUSIC IN THE ROUND

BY KALMAN RUBINSON

THIS ISSUE: KR ponders the impact of Dolby Atmos and tries out a new pre-pro and amplifier from NAD.

Dolby Atmos: What's in it for music?

While Dolby Atmos, which adds height information to both cinema soundtracks and domestic surround-sound reproduction has created a strong buzz in the mainstream market for home-theater A/V receivers and preamplifier-processors, it's too early to know what, if any, impact it will have on music-only recordings. I'm not sanguine about the prospects—as impressive as I've found Atmos to be for movies, the expansion of sources to the vertical plane would seem to be of little value for music performed on acoustic instruments. Moreover, it seems unlikely that mainstream record labels will adopt this format any more than they have embraced multichannel or even high-resolution audio. Sound of CD quality or below still dominates the recording industry, even if hi-rez downloads are a bright but tiny point of light.

I have long maintained that we audiophiles, and the manufacturers that serve us, end up optimizing whatever is thought will best sell in the mass market. What can we hope to get out of new technologies like Dolby Atmos that might be applied to listening to music not recorded with it, particularly multichannel recordings? Fundamental to this is object-oriented processing, in which individual sources (a voice or a sound) are distributed among the channels of a surround system to appear at their proper positions in space, whether or not a loudspeaker occupies that spot. What I see as being of stealth value for music reproduction is that object-oriented processing might bring with it the development of advanced room-correction systems. Note: None of what follows is based on inside information, but on my speculations of what can be developed from the new codecs and hardware.

All the well-known consumer room-correction systems focus on the optimization of a horizontal array of speakers. Some, like Audyssey, even insist that all the measurement microphone positions be at the height of the primary listener's ears. Trinnov Audio, which uses a unique microphone array that can discern speaker positions in all three planes of space, can also “acoustically” correct each speaker's position in 2D or 3D space by sending signals to the other speakers in the room. In its present incarnations, it creates phantom sources for each speaker so that all speakers are at standard ITU angles with respect to the listening position, and all are in the same horizontal plane as the listeners' ears. In other words, it treats the signals of the five or seven or more channels as acoustical “objects,”

each of which needs to appear to emanate from a particular direction, and processes them so that what emerges from each speaker is not merely a single channel's signal but a signal that, in concert with what comes from the other speakers, helps create a virtually correct array. When I reviewed the Trinnov Optimizer,¹ it occurred to me that the addition of more speakers, even with only 5.1 or 7.1 channels, could result in even greater and more complete optimization of proper signal source placement and correction of room modes.

At the 2014 Consumer Electronics Show, Dirac demonstrated a prototype of their Unison room-correction system. This uses all of the speakers in a standard horizontal speaker array as active correction devices for room modes. This reminded me of such active but singular room-correction devices as the Bag End E-Trap² and the Phantom Acoustics Shadow active low-frequency acoustic control³—though those devices, as discussed by Keith Howard in his article “Anti-Node: Active Room-Acoustics Correction,”⁴ include microphones and electronics to detect and absorb modal energy. Dirac has yet to divulge the Unison's exact operations, except that “it is based on ideas from the fields of active noise control, sound field synthesis and room correction where our company has conducted research for many years.” However, one can infer that the use of more and better distributed active devices should result in better correction, and indeed, the Unison demos were impressive for their elimination of room modes with minimal effect on the tonality of the system.

To me, it is a small conceptual jump from these observations to infer that a system with 3D speaker arrays, such as with Dolby Atmos (or Auro Technologies' Auro-3D) could do double duty as a complete platform for room correction. As of today, all the basic parts are available in the DataSat RS-20i and Trinnov Altitude32 processors. Although I was hugely impressed with my son-in-law's 5.1-channel system, which included an RS-20i and Dirac Live, it boggles my mind to think what the addition of height speakers could do for multichannel music, even if only to more completely optimize room correction.

1 See www.stereophile.com/content/music-round-62.

2 See www.stereophile.com/content/music-round-31-page-2.

3 See www.stereophile.com/roomtreatments/1289phantom/index.html.

4 See www.stereophile.com/reference/108tech/index.html.

NAD MASTERS SERIES M17 A/V SURROUND-SOUND PREAMPLIFIER-PROCESSOR

Despite a tradition of marketing stereo and multichannel components of conservative appearance and solid engineering, NAD has been more adventurous than most audio manufacturers in pursuing digital innovation. In my review of the T 187 preamplifier-processor in January 2013,⁵

I traced “their original digital preamp, the 118, which I reviewed in the July 1998 issue,⁶ to the M2 Direct Digital amp, reviewed by [John Atkinson] in March 2010,⁷ to the

5 See www.stereophile.com/content/music-round-58.

6 See www.stereophile.com/solidpreamps/279/index.html.

7 See www.stereophile.com/content/nad-m2-direct-digital-integrated-amplifier.



Masters M51 high-resolution DAC, reviewed [in July 2012] by Jon Iverson;⁸ and their Masters M50 and M52 music-streaming devices.”⁹ I concluded that “NAD has never simply repackaged available chips and modules, but has always gone their own way.”

Somewhat in counterbalance to this, NAD’s Masters Series has coupled strikingly sophisticated appearance and construction with solid but conservative engineering; eg, the M15 HD2 pre-pro and M25 seven-channel power amp. However, in an informative demonstration of NAD, PSB, and Bluesound products for *Stereophile* staff last June,¹⁰ I saw that things had changed. First was the impressively smooth integration of Bluesound technology into NAD’s Masters M12

Direct Digital preamplifier-DAC, and the promise of same for the Masters M17 multichannel pre-pro. Second was the use of Hypex nCore technology in the two-channel Masters M22 two-channel and M27 seven-channel power amps. Third was the new industrial design by David Farrage—so fresh that I just wanted to get my hands on them. So I did.

The Masters M17 (\$5499) is much slimmer, cleaner, and sleeker than the Masters M15 or, indeed, almost anything else out there. It arrived in a carton weighing more than half as much as the 24-lb M17 itself—unless someone took an axe to the box, I can’t imagine how an M17 could be damaged in shipment. I removed the M17 from a thick brick of firm plastic

foam, and opened the slip-knotted fabric bag as if it contained a precious jewel. The M17 looked even better than I had recalled from seeing it at NAD’s demo.

The M17 measures 17" (435mm) wide by 6.1" (156mm) high by 15.1" (386mm) deep. Its black front panel stands proud of the contrasting matte-silver frame, and the color of its illuminated NAD logo indicates the power status (Off/Standby/On). There are also a large, touch-sensitive display and a black volume knob. Centered on the top edge of the frame is a touch-

8 See www.stereophile.com/content/nad-m51-direct-digital-da-converter.

9 See <http://tinyurl.com/lr4dkar>.

10 See www.audiostream.com/content/nads-new-master-series.



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sensitive Standby/On switch. That's it.

Across the top of the rear panel, beginning at the left, is a 7.1-channel array of XLR audio outputs. To the right of these is a matching array of RCA outputs, with the addition of an output for a second subwoofer. Below these are four Modular DC (MDC) modules that permit the user to change and update the hardware without having to return the M17 to the factory or replace it entirely. The review sample had these four modules:

- 1) Digital Video: 6 HDMI inputs, 2 HDMI outputs, RJ45 Ethernet port
- 2) Analog Video: composite in/outs (3/1), component in/outs (2/1), Zone 2 composite output
- 3) Digital Audio: 4 coaxial inputs, 4 optical inputs, 2 coaxial outputs, 2 optical outputs
- 4) Analog Audio: 7 inputs, 3 Zone outputs

At bottom right on the rear panel are an IEC AC inlet, an unswitched AC output, and the master Power rocker. Above these are IR and 12V trigger ports, trigger control, and an RS-232 port.

I immediately saw that the M17 has no USB port, and that its Ethernet

The sound of the M27 was notably clean and punchy.

and RS-232 ports can be used only for device control rather than audio data. After NAD's impressive demo of the M12's streaming abilities, this shocked me. However, NAD assured me that a module supporting streaming and Bluesound would be available by the end of 2014. Bummer.

The M17 sits on four large, broad spikes, for which NAD provides concave protective plates that center themselves magnetically. Installation was a breeze, and setup involved

minimal but predictable use of the M17's menus. I connected the M17's XLR outputs to my Bryston 9BST amp and, later, to NAD's own M27, but fed the RCA outputs to my two subwoofers. After setup, the OSD wasn't needed—the excellent and informative front-panel touchscreen, with its crisp text, sufficed for all normal operations (fig.1). In fact, the M17's is the best info display yet, but is compromised by a nagging issue: Remember, the touch-sensitive Standby/On switch is at the center of the top edge, just where I'm likely to rest my hand when using the touchscreen. You can imagine how infuriating it was to be continually turning off the M17 just when I wanted to interact with it. It took me weeks to learn not to do that, and I still sometimes forget.

On the other hand, the M17's remote control was an unalloyed delight: slim, and just hefty enough to feel good in the hand. Illumination is automatic, and the button array is logical. I particularly appreciated being able to directly access Audyssey MultEQ XT with a single button, and three rocker switches permit the



Fig.1 The NAD M17's set-up screen.

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The M17's sound, too, was delightful. I used it for a few weeks without Audyssey, connected, via the M27 or my Bryston 9BST power amp, to the Monitor Audio Silver 8 or Paradigm Studio/60v.3 speakers. There are no multichannel analog inputs, and the stereo inputs are digitized at the M17's internal processing bandwidth of 24-bit/192kHz. In practice, the analog inputs sounded transparent, but direct A/B comparisons weren't possible. The digital inputs accept 24/192, and were deliciously transparent in stereo or multichannel. I could pick out individual voices from a 5.1-channel recording of Robert Hollingworth conducting I Fagiolini in a Mass by Alessandro Striggio, *Ecco si beato giorno* (DVD, Decca B0015655-00), and enjoy the tonal richness of the 40-part scoring. With this and more conventional music, the M17 gave as good as it got.

Dynamics were precise and satisfying, and bass was delivered with authority. A new and interesting recording of Fauré's *Requiem*, with Stephen Cleobury conducting the Choir of King's College, Cambridge, and the Orchestra of the Age of Enlightenment (SACD/CD, Kings College Choir KGS0005), had wonderful ambience. It's less spacious but more enveloping than my favorite recording of this work, with Paavo Järvi leading the Orchestra de Paris and Chorus (BD, EuroArts 2058874), and the carpet of organ tone makes it special. It also seems more reverent than Järvi's more rhapsodic interpretation. On the other hand, a recording of orchestral works by Bartók, Hindemith, and Prokofiev, with Michael Stern conducting the

Kansas City Symphony (SACD, Reference RR-132SACD), was almost too much through this system, and was definitely too much through my reference system, in Manhattan. The rich ambience and dynamic bass that put Prof. Keith Johnson's stereo recordings in their own class seem over the top in multichannel. Reverting to stereo, the M17 was just wonderful via either amp and either set of speakers.

Playing hi-rez and/or multichannel files from my server, connected to the M17 via HDMI, was simply glorious, especially as these signals were passed through a Dirac Live speaker-and-room-correction filter set at 24/96. The M17 doesn't accept DSD signals, but Dirac Live also imposes a PCM requirement, so these results stand on an equal footing with those from other pre-pros.

Having achieved great satisfaction so far, I ran an Audyssey calibration. The M17 is supplied with MultEQ XT, and not the latest version, XT32. This means that it has a more limited and less effective filter set, and that, despite the M17's dual subwoofer outputs, both subs are treated as one for all measurements and corrections. The calibration process was uneventful, and assigned all of my speakers to be Large—a common outcome with my speakers and *any* room-correction software. The sound was much improved, with some additional presence and detail in the midrange and a tightening of the bass. Unlike most pre-pros, the M17 passes hi-rez sources through Audyssey at 24/96 without downsampling to 24/48. I especially appreciated this with the optional NAD correction target curve.

I then adjusted bass management to reassign my main speakers as Small

by setting a 40Hz crossover for the L/C/R and an 80Hz crossover for the smaller surrounds. This was a disaster: The bass became lumpy, with a droning subwoofer output that seemed to hum along with the main channels, even with unaccompanied voices. I was forced to revert to the Audyssey-chosen full-range settings for all speakers. The solution was to use the Pro calibration option. With that, I could achieve high-quality results *and* bass management. I interpret this to mean that it is not the M17's inability to independently measure and calibrate the subs that is problem. It might be a microphone issue, or that my two attempts with Audyssey were flawed, as they sometimes are.

Its price of \$5499 places the M17 at the upper end of pre-pros, where it competes ably with the \$6500 Krell Foundation that I reviewed in May 2014 in terms of basic sound quality. I preferred the M17's elegant appearance and its user interface by wide margins, but felt that their abilities in room equalization were a toss-up. Both lack any useful streaming capabilities, but while the Krell has more features, including pure analog inputs, the M17's modular design presages relatively painless upgrades. Of course, many lower-priced pre-pros have even more comprehensive feature sets; however, unlike the M17, they are constrained by downsampling when Audyssey is used.

Overall, I was extremely pleased by the performance of and my interactions with NAD's Masters Series M17. In fact, if NAD will accommodate me, I intend to hang on to it, in anticipation of the release of the USB/Bluesound module, and report on it again.

NAD MASTERS SERIES M27 SEVEN-CHANNEL POWER AMPLIFIER

In some ways, the power amplifiers released with a new pre-pro can seem afterthoughts, as if intended merely as

a response to a marketer's demand that "We gotta have something to match the new processor." NAD's Masters M27 seven-channel power amp, however, is no mere afterthought to the

Masters M17 pre-pro.

NAD has developed quite successful conventional analog and class-D power amplifiers (see JA's review of their Masters M2 Direct Digital amplifier



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to which I referred earlier). This time, however, they've adopted a technology that has recently made inroads into the High End: Hypex's nCore, based on their UcD concept.

UcD is, fundamentally, a PWM amplifier that is DC-coupled from end to end, lacking even an output-blocking relay. The latter is replaced by much faster electronic protection. DC protection also includes a useful 2Hz, 12dB/octave high-pass characteristic, via not a traditional DC servo but a feed-forward design that takes a low-passed signal derived from the input and subtracts it from the main signal at a later stage. The nCore design makes use of negative feedback and uses a modulator that was linearized using a mathematical analysis of oscillator behavior. The distortion and output impedance remain low over the whole spectrum.

The size and lovely appearance of the Masters M27 (\$3999) perfectly match the M17's. It sits on the same large spikes fitting the magnetically attached protective pucks, if you choose to use the latter. The same black front panel now bears only the illuminated NAD logo, which again indicates the power status. The actual Standby/On switch is on the top, and operates similarly to the M17's—or, at least, it should. The review sample's switch was defective and unpredictable in its response; I usually had to touch it multiple times before the M27 would turn on or off.

On the rear panel are connections for the seven amplifier modules. Each is populated with, from top to bottom, single-ended (RCA) and balanced (XLR) inputs, and a pair of substantial multiway speaker terminals. To the right of each pair of inputs is a toggle to select between them. Each amp module also has a Protect LED, to indicate its operational status. At the far right of the rear panel, from the top down, are a 12V trigger input and a dimmer for the front-panel LED, followed by the master Power switch,

the fuse bay, and the IEC AC inlet. Had I used that trigger input, the tricky front-panel switch wouldn't have mattered.

The sound of the M27 was notably clean and punchy. By *punchy* I don't mean that anything was added or out of place, but that in terms of frequency response, transient response, and dynamics, the M27's sound was so well delineated that bass notes were as discrete as notes in higher ranges. Another way to describe this is as a lack of smearing. The midrange and treble were completely free of any grain or, significantly, the grayish character that is a consistent flaw in the sounds of many of the otherwise excellent class-D amps I've used. A listener can adapt to that, but the M27 makes no such demands.

The claimed power output for each module is 250W into 8, 4, or 2 ohms, with dynamic power (1kHz, 10ms) of 350W into 8 ohms and >600W into 4 or 2 ohms. Obviously, in a seven-channel amplifier, each channel's output would be limited by the power supply and the AC supply. NAD lists the M27's output as equal to or greater than 180Wpc with all channels driven. Given that I used no more than five channels, my expectation is that the power output is more than I can use, which means that, in practice, it was limitless.

Compared to my five-channel Bryston 9BST (\$8095), which has a similar power spec but is limited only by the AC supply (each channel has its own power supply), the sound of the M27 was, delightfully, a bit more forward. My preference shifted with the recording—the Bryston's slight reticence could sometimes tame an aggressive signal. Overall, it was hard to decisively choose between them, though the M27's appearance, efficiency, and lower price probably make it the more attractive option today.

The NAD Masters Series M27 is much more than just a pretty face offered as a mate for the Masters M17. It has oomph enough for most setups, runs quietly and efficiently, and, best of all, is transparent in its task: amplification. Whether or not the M17 appeals to you, the M27 must be considered for any multichannel system. ■

Kalman Rubinson (STletters@sorc.com) combines a career teaching neurobiology with shuttling between surround-sound-outfitted homes in Manhattan and Connecticut.

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**Aerial Acoustics' Michael Kelly
reveals some trade secrets**

by DAVID LANDER

Aerial Acoustics, the speaker firm that Michael Kelly conceived a quarter-century ago with David Marshall, is headquartered north of Boston, not far from the Merrimack River Valley region that once produced textiles and shoes by the trainload. Kelly, though, is quick to equate Aerial with far more distant firms. His industrial models are in Germany, where he lived for a while when his father, a US Army officer, was based there, and where he later spent time as a vice-president of a/d/s/, which had been founded by a German-born and -educated scientist, Godehard Guenther, who died last October. They're small-to-midsize specialty firms that together constitute a category called *Mittelstand*, and they're as accomplished as they are narrowly focused. They're artisan enterprises, and it's only natural that someone as dedicated as Kelly is to building state-of-the-art loudspeakers would embrace them as examples.

David Lander: You've said that a high school English teacher tapped you to direct the senior-class play when you were still a junior, which reveals your affinity for the arts. Yet you claim that, during your boyhood piano studies, you just kept trying to play the instrument faster.

Michael Kelly: I think I confused the piano with the typewriter.

DL: Were you in a similar rush to get the doctorate you were working toward in North Carolina, back when your career goal was research in plasma physics?

MK: I was just working like crazy. I burned out.

DL: For a time, you sold audio components in North Carolina, at a store called Soundhaus, in Chapel Hill.

MK: I ended up being their best salesman. It floored me. I had no idea I'd be a good salesman.

DL: It was at Soundhaus that you met a/d/s/ founder Godehard Günther, who hired you to head up speaker-manufacturing efforts and, ultimately, move into product design at his company, where you spent 12 years. When you were about to leave, Godehard offered you an opportunity to go back to graduate



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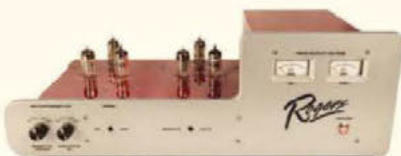


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Right: Michael Kelly's 20T loudspeaker was one of *Stereophile's* Joint Loudspeakers of 2004. Michael accepts the award from John Atkinson.

Below: Aerial Acoustics' first loudspeaker was the 10T.



school. You excelled at physics—years earlier, you'd been awarded a National Science Foundation fellowship to grad school in that discipline—but this time around, you opted for a business-management program.

MK: Godehard's gift to me, when I left a/d/s/, was to pay my tuition and living expenses for an MBA at MIT's Sloan School. What a gift! It was a complete surprise to me, and it was incredibly magnanimous. I thought it was a good idea, because I wanted to go from building speakers to building a company that could build speakers. At the end of the day, it was mostly academic, because it didn't apply to the kind of business I wanted to run—a small, tightly controlled business based on the small-European-company model. That was firmly fixed in my mind before MIT, and still is. By the time I left a/d/s/, I was in charge of all design, manufacturing, and most operations. We had 145 people, and most of them reported to me, but I'm really a hands-on person, and that requires operating on a smaller scale. At Aerial, I generally spend about half my time on product design and development, which is still what I love best, and the rest on management and operations. I did need the additional tools that would allow me to build a company, not just products, which I think is what Godehard wanted to give to me through MIT. I certainly thank him for that.

DL: You and I first met when I did some writing for a/d/s/, and your attention to detail was obvious. I remember how particular you were about choosing the large wreath you installed in the office at Christmastime. That facet of your personality is also very apparent in *Stereophile's* 2004

review of your 20T speaker. You're quoted there as saying that, before deciding on the 20T's tweeter, you "listened to everything, every ribbon I could get my hands on." And you noted that development of the midrange driver took more than two-and-a-half years and 28 prototypes. I'm puzzled, though, by one aspect of Aerial's debut speaker, the 10T.¹ The top cabinet's look is a bit crude, which seems odd, since you aren't one to neglect the appearance of things.

MK: It's true; the 10T is not particularly good looking.

DL: It certainly doesn't mirror the esteem you've expressed for the German industrial designer Dieter Rams, some of whose hi-fi components were sold here under the a/d/s/ name. Rams, of course, is renowned for numerous Braun products that are now classics, from calculators, clocks, and coffee grinders to radios and watches.

MK: With the 10T, we were trying for absolute performance and were driven by function. Because of low-volume production and higher cost per unit, if we had also tried to have great looks, it would have been too expensive. Why would anyone, when we were just starting out, have bought an Aerial if it had been the same price as a B&W? So we went for performance at a reasonable price.

DL: The visual elegance of your current towers, the 7T and 6T, are much more in character. Can we expect future Aerial speakers to display that level of taste?

MK: Absolutely.

DL: Which Aerial model has been your best seller?

MK: The 10T. I think the 7T will, in the long run, be our best-selling

1 The 10T was reviewed by Wes Phillips in April 1996; see www.stereophile.com/floorloudspeakers/466/index.html.

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product ever. It hasn't caught up with the 10T yet; it hasn't had enough time.

DL: *You and your partner, David Marshall, worked on the 10T for two years before introducing it.*

MK: We started designing it in 1989, and incorporated the company and started selling it in the same month in '91. I got married that year, too.

We grew to a peak of about 10 people, and eventually ended up in Wilmington, Massachusetts, in around 2000. We took over, from Bausch & Lomb, their contact-lens plant—15,000 square feet in a contemporary building in Wilmington Technology Park. We have a clean, bright, well-equipped production facility, where every Aerial speaker is assembled, tested, and packed by trusted, long-term employees. There are open, contemporary offices and ample warehousing. We added R&D facilities, and a beautiful sound room.

DL: *Do you still view the 10T as one of your major achievements?*

MK: Yes. I think the Novalith cast head is pretty important.

DL: *That's the top enclosure, which houses the 10T's treble and midrange units. Tell us about its development.*

MK: We started out building the head from wood, and we kept making it thicker and thicker, and every time we'd make it a little thicker and make it deader, we could hear an improvement in clarity and definition and musicality. It was getting bigger and bigger, and finally we said, this is ridiculous—you want it to be small acoustically, but you want it to behave like it's massively inert. You can use cast stone, but cast stone will ring, so we developed a material, which is a modified stone—not a plastic, but a modified calcium carbonate—with some ingredients that I think I need to keep secret. It's very heavy. We decided to go all the way and cast it ourselves, 100%. We finished it all in-house, which is very, very hard to do.

DL: *You don't use Novalith anymore.*

MK: No [laughs], but we might. I can't say any more than that. The 20T² is a very different thing, because we rely on very, very good cabinetmakers.

We basically use dual walls: an inner cabinet and an outer cabinet. The outer cabinet is trying to compress the inner cabinet, and the inner cabinet is trying to break out of the outer cabinet, so there's tension between the two. And in between the two of them is a soft, energy-absorbing material, like asphalt.

DL: *How do you go about fabricating such an enclosure?*

MK: You build the inner cabinet, then you build the outer one around it, then you clamp it down and glue it at the same time. There's also bracing. It runs through holes in the walls of the inner cabinet, and connects to the outer cabinet to reinforce the entire enclosure.

DL: *What other Aerial speakers do you see as significant?*

MK: Our first center speaker. Back in the late '90s, home theater started to become very strong, and center speakers are critical to home theater, so we introduced our CC3.³ It was a three-way with two rotary switches, for boundary-level compensation and system matching. I hesitate to say it was the first, but it was certainly *one* of the first *really* good center speakers. We followed that with the SR3, an on-wall, five-driver, switchable, dipole/



Aerial Acoustics' 6T loudspeaker was the company's most recent launch, at the January 2014 Consumer Electronics Show.

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2 Reviewed first by Michael Fremer in April 2004 and then by John Atkinson in November 2009. See www.stereophile.com/floorloudspeakers/404aerial/index.html and 'floorloudspeakers/aerial/acoustics_20t_v2_loudspeaker/index.html'.

3 Reviewed by Wes Phillips in November 1996; see www.stereophile.com/content/aerial-acoustics-cc3-center-loudspeaker.

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bipole surround, which we recently discontinued after it had been in production for many years. Shortly after that, we developed what was one of the first really good subwoofers that would be fast enough to mate with speakers like Quads or Magneplanars, the SW12. It was good for music, which has always—always—been our first concern. Two-channel's always our goal, but we make things that work for home theater. That sub was good for both.

DL: Can you tell us anything about future Aerial speakers? A 5T will probably be available by the time this interview appears.

MK: There will be a new on-wall product family, and an important new model between the 7T and the 20T V2 that is due in about a year.

DL: You and your associates at Aerial have been so closely involved for so many years that your relationships border on kinship. You've been working alongside Dave Marshall since he joined a/d/s/ in the mid-1970s, not long after you did. That's a long time.

MK: A long time. I actually hired him as a draftsman. Technically, he's extremely good.

DL: The 10T's crossover was his design.

MK: That crossover network was really a work of art.

DL: Karl Brunelle, who was in production and quality control at a/d/s/, is also at Aerial.

MK: Karl and I go back to the 1980s.

DL: You've also stressed the significance of relationships with suppliers, and the sub-suppliers who provide them with parts.

MK: My background, from a/d/s/, was designing and completely building all drivers from scratch, but we weren't large enough at Aerial to do that.

DL: So you had to turn to OEM driver suppliers.

MK: By the early '90s, there were very good ones. We'd design the drivers completely, and they would build them to our specs. One of the things that Aerial has always done that's different than competitors that use standard OEM drivers is that, because we're able to design the drivers, and because we have wonderful working relationships with these companies and with the engineers in these companies, we're able to totally optimize the drivers for our designs. The result is that the system performance is better than if you had used a standard OEM driver from the same manufacturer.

DL: Have you kept up relationships with any of the sub-supplier companies that provided components for the drivers you built

in-house at a/d/s/?

MK: The Dr. Kurt Müller company, in Germany, which makes cones and domes and surrounds—the critical soft parts, the critical moving parts of the drivers.

DL: The Kurt Müller operation was founded prior to World War II, and is a good example of the German artisan companies you admire so much. Recently, you began a relationship with a Danish firm, Gato Audio. Why did you decide to import its hi-fi electronics?

MK: I really believe in what they're doing. We had no electronics, and we felt we could utilize our warehouse and contacts to help them in the US market. We're basically able to do this at the same time as selling our own products, and we've become very good friends.

DL: Friendship, an especially longstanding friendship with one of Peachtree Audio's founders, Jim Spainhour, led you to become involved with that company. Though it addresses a somewhat different market segment, you're a partner, and you do some consulting there. How did you get to know Jim Spainhour?

MK: He was a customer when I was working at Soundhaus. He bought a used, traded-in Dynaco Stereo 70 tube amplifier that blew up the first night he had it. I fixed it, and we've been friends from then on.

DL: At various times, when I've called the main Aerial number, you've answered the phone yourself. Avery Fisher used to answer calls that came into the main Fisher Radio number on Saturdays, when he was working in his office at the Long Island City plant. He told me that surprised more than a few callers.

MK: I'm very accessible. I try to answer people's questions.

DL: But how do you find the time?

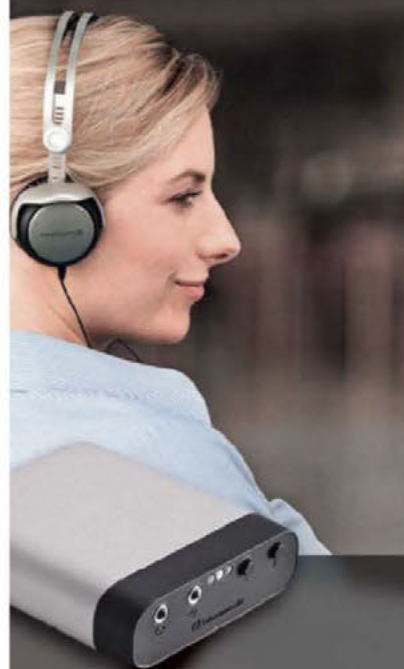
MK: I'm a very hard worker. I make up for the time it takes. The other things I might have been doing during that time, I do in the evening.

DL: You do your day-to-day work at home, in Maine, where you have a small cottage on the ocean. When you do commute to Massachusetts, is it a long drive?

MK: It's no problem, but I don't have to be in Wilmington to do most things. Everyone there was with me at a/d/s/ and goes back 30 years. Working the number of hours that I do, my chance for enjoyment is looking out the window. I put in a very, very large amount of hours, and my recharge is to look out the window and see something beautiful in nature. ■

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Enter the Natural

Jackson Browne on sound, his new album and coming to the fight.
by ROBERT BAIRD

Jackson Browne on sound, his new album and coming to the fight.

For famously civilized and jaded New York City, the crowd at the resplendent Beacon Theatre is uncommonly involved. Loud requests, many in tangled liquor dialects, boom from the balcony:

“REDNECK FRIEND!”

Onstage, Jackson Browne smiles and shakes his head.

“COCAINE!”

“I could do that, but it would have to be the rehab version.” [crowd roars]

“FOR A DANCER!”

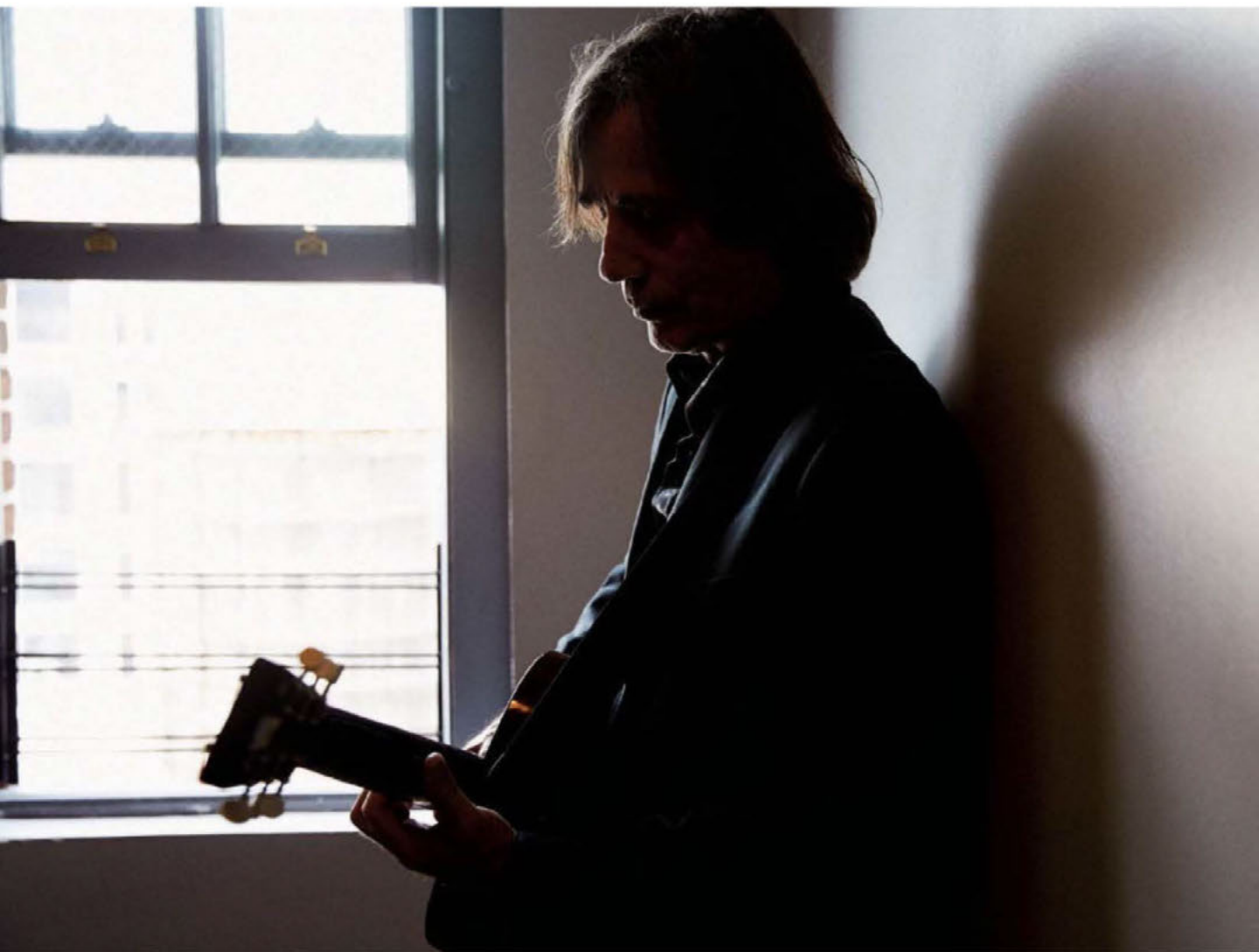
Oh, wait—I’m yelling that.
“HAPPY BIRTHDAY!”

Browne laughs and bows deeply as the crowd serenades him with an impromptu version of “Happy Birthday,” to mark his 66th. Fronting an eight-piece band that rocks—if not as hard as the one he had back in the 1970s, in the *Running on Empty* days—Browne, roused by the birthday sing-along, launches into a set heavy with tracks from his new album, *Standing in the Breach*, but studded with enough

old favorites—“Doctor My Eyes,” “Fountain of Sorrow,” and, yes, “For a Dancer”—to keep the predominantly gray-headed crowd feeling glad we’ve come.

A couple days before, I’d met Browne in a huge basement ballroom of the Beacon Hotel. While his voice was dry and crackled from singing, a state he eased with a large travel mug of tea, Browne was his usual intelligent, modest self, swapping slightly salacious war stories (“Oh man,

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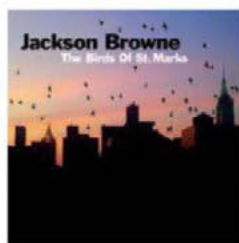

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you're not going to print that, right?"), deep dissections of his art, and calm assessments of the many social issues that have always been part of his career—all with his trademark mischievous smile and world-famous hair, these days, flecked with gray. One thing Browne has always displayed in interviews is honesty, sometimes to his own detriment. When a conversation about his back catalog prompted me to pull out a copy of Mobile Fidelity Sound Lab's 1982 vinyl edition of *The Pretender*, it triggered a fascinating tangent.

"Oh, wow, I don't remember this being done," he said, taking the record out of its plastic sleeve. "But are you sure there's a second verse in 'The Pretender'?" Big smile.

As a quizzical look crossed my face, he was off: "When we released *The Pretender*, one of the things we did was release the song 'The Pretender' as a single, so a different, shorter single version was created. Later, on the next pressing of *The Pretender* album, they just put out whatever they had. They printed a bunch of these *Pretenders* where [the title song] was missing the second verse because the single edit was used. Somebody called me and said, 'I wore out my copy of *The Pretender* and I bought a new one, and the second verse isn't there.' And also, on 'The Fuse,' there was no fade. We had made a mark [on the tape] where the fade would start and where it would be out by. They just cut it off and put the leader in, so the next song could start. So on this new version of *The Pretender* that tune just went 'EEEEmmmm... dide!' That was unusual for a company like Elektra to do, because at that point it was still Elektra, and because the production people there were very conscientious. But somewhere along the line, somebody made a decision to not go through all the trouble.

"Greg Ladanyi was the original mastering engineer on *The Pretender*. He wasn't the recordist, John Haeny was, who also recorded *For Everyman*. He was everybody's secret weapon back in the day. He worked out of Sunset Sound and did a lot of records for Elektra. He recorded the tracks on *The Pretender*, and then we got a bunch of second engineers to work with us, doing overdubs and stuff like that. When it was time to mix, we started to work with a guy named Val Garay, but we didn't see eye to eye. The only track that's his mix is 'Sleep's Dark and Silent Gate'—we kept that one. But



IT'S BETTER WARMER BECAUSE OF MY PARTICULAR VOCAL HABITS, THINGS THAT I DID AS A SINGER THAT I NO LONGER DO. I WOULD HOLD THESE NOTES TOO LONG.

there were ones where he was kind of intractable. There were times where I wanted to do things again, or I wanted to readdress something, and he didn't want to—so we hired his second, Greg Ladanyi, and he was brilliant."

All this audio-engineering minutiae led us to discuss a project progressing on a track parallel to *Standing in the Breach*—the remastering, and reissuing on high-quality vinyl, of Browne's back catalog. Browne and engineer Doug Sax had recently completed a fresh master of *Late for the Sky*, to celebrate the album's 40th anniversary. But the release of the new album and the subsequent tour, and navigating the business of pressing LPs as an independent artist rather than as a label signee, slowed the progress of the reissue program, which Browne said will eventually include his entire back catalog and will be released by his own label, Inside Records.

"We lovingly created a fresh master for *Late for the Sky* on the same original equipment. We really tried to re-create the exact sound that [producer and engineer] Al Schmitt got. Although we did turn up the drums a bit. The drums were light through the whole mix. People came up to me later and said, 'Oh my god, have you ever heard of Led Zeppelin?'"

"We also did a new mastering, but it wasn't better. It was more competitive in all the ways that new records are supposedly better: louder, brighter. But because of the way I sang in those days, it doesn't sound better to have this vocal up. It's better warmer because of my particular vocal habits, things that I did as a singer that I no longer do. I would hold these notes too long. Or I would sing really loud and hard, like a trumpet tone or something. The singing is kind of overbearing if you do to that record what you would do to a contemporary record."

Amazingly, Browne briefly toyed with the idea of re-recording his vocals—after 40 years. "I was even going to put in some corrections, some improved mixes, you know. But the

younger guy in this remastering session gave me a look—it was just a look, but it said, 'Really, man? You're gonna re-release this stuff after 40 years and make it "better"?' And I rethought it and decided, 'Okay, we're gonna put it out the way it was.'"

Always aware and involved in issues of sound quality throughout his recording and performing career, Browne said he understands and sometimes even enjoys the process.

"Oh yeah, absolutely. Sound has always been important to me, but I've never known very much. I had a great conversation with Glyn Johns once, and I was saying, 'I don't really know about the bass. I don't know how to get, or even what, a great bass sound is.' And he says, 'You know?' I said, 'No, I really don't know,' and he says, 'You know—of course you know.' And that's all he would say. He was wonderfully, eloquently brief.

"You have to work on it, make it sound good—there are all kinds of tricks, but if you're waiting for someone to walk in and hand it to you on a silver platter... and, actually, every now and then that does happen, where someone comes in and does something to your song that is amazing, that you could have never guessed, and you live for that pleasure of having someone elevate it way beyond what you were shooting for. But in most cases, I really don't think anything can take the place of you rolling up your sleeves and going about getting everything you want to have happen happen.

"In the case of *Late for the Sky*, and also with the new record, working with an engineer who is willing to go through the learning curve of discovering what you can get from the songs is more important to me than passing it to some master who's heralded by all to have his own sound but who doesn't have the patience, or the chemistry, that allows you to interact. These masters I am referring to, like Bob Clearmountain and Ed Cherney, I probably could get it, I probably could work with them in a longer



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frame. What I couldn't do is work with them for a year, going through all the nonsense I do to get the song where I want it to be. They have other projects. So working with my engineer, Paul Dieter, [on *Standing in the Breach*], when we finally decided, 'Hell, let's mix this ourselves!'—it felt great, it felt fresh, the way a lot of great records have been made by people who were on hand. Like when Jon Landau worked on *The Pretender*. He had a really great reference system set up in his hotel room, and he'd go back and he'd listen intently. With *Standing in the Breach*, I had to have the confidence to get it the way I wanted it—because I was listening, I was driving, and I decided to take on that responsibility."

As for his back catalog, Browne said that there are some records whose sound he's less than pleased with.

"I've thought about going back and remixing the last record, *Time the Conqueror*, which was mixed by Elliot Scheiner. Elliot is a great engineer, one of my favorites, I love the sound of his records. But there, I couldn't interact with him in the mix because I was busy writing the last verses to songs in the next room, and I was just going to the master and saying, 'Make this finished.' So it's my fault. But I have to say that a lot of what he did was not what I was hearing, all through the making of the record. It was that experience, really, of thinking, like, 'Hmmm, what he did with the drums . . . I like the way we played it.' There was something about the inner compression of the drums.

"The biggest problem I had with that record is there was one singer that I couldn't get him to turn up loud enough. The way he wound up hearing the girls that sing with me, it just wasn't what we had. But then maybe

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it's my hearing. Maybe that frequency is just not there in my ears and it was plenty loud. That actually happened, working really late hours one night on this record, when I said, 'Can't we just turn that voice up?' And Paul [Dieter] was saying, 'It's really loud already—do you really want me to?' The next day, after a night's sleep, I listened to it and he was right—it just wasn't there the night before."

Standing in the Breach contains perhaps Browne's most inspired wordsmithery since his early days on Elektra. Those lyrics are joined to a number of solid melodies, as in: a fabulous reimagining of Woody Guthrie lyrics as "You Know the Night"; "Leaving Winslow," which namechecks the Arizona burg famously mentioned in "Take It Easy" (which, on the current tour, is often the encore); and "Yeah Yeah," which sounds like an outtake from one of those glorious early Browne records. One, "The Birds of St. Marks," is a previously unrecorded song from even earlier: 1967, when Browne had a New York City romance with Nico (who died in 1988). It's the new record's most unique-sounding track, thanks to the unmistakable shimmer of Greg Leisz's 12-string electric guitar.

"I wrote this song for Nico, and you would probably never guess, but she was a big fan of the Byrds. She particularly liked 'Eight Miles High,'

and thought that the guitar playing was really avant-garde—that the 12-string part . . . was really the Byrds being influenced by Coltrane. They were very searching. That was pre-country-music Byrds. They had Hugh Masekela—they had a South African trumpet player on 'So You Want to Be a Rock 'N' Roll Star.' They were very adventurous.

One difference between *Standing in the Breach* and many Jackson Browne albums is a distinct lack of preachiness. "You wanna offer people something of use, of value. It's hard enough to talk about something, like how compromised the ocean is. You want to direct people to the fight, not to remind them of how much we've lost. There's a great quote—Carolyn Forché, in one of her poems, says, 'It is/ not your right to feel powerless / better people than you are powerless.'"

"I think of all the advantages we have, not just economically. There's a lot of good luck, you know, in the United States; there's a lot of coming together. We have these incredible natural resources, and these incredible diverse cultures interacting. It's an open society, there's a lot of good stuff here. And there's quite a bit left that we haven't really done. The destruction of the environment, and destroying so much of what the United States was able to make happen in the last century, is the way we do business. Unregulated capitalism is destroying what regulated capitalism gave us. And it's all in the name of undiminished wealth for a few.

"This is the fight. This is the same fight that's going to be happening in every other country in the world, too. Anything you can do to get people to think in terms of the possibilities of what they might be able to contribute or might be able to do would be a help. Despair has never been my aim. I've always been willing to talk about sorrow, or even express how difficult a situation might be—as long as you leave some way of moving forward, of getting to the fight."

"PLAY WHATEVER YOU WANT!" comes a final shriek at the Beacon. The crowd applauds.

Browne leans forward to the mike. Another big smile.

"Maybe we should do what they tell us to do . . . ?" ■



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THOMAS J. NORTON

Vienna Acoustics Beethoven Baby Grand Symphony Edition

LOUDSPEAKER

I was stationed in Germany in the Air Force for two years in the 1980s, and for one long weekend off had to decide whether to visit Berlin, or travel to Austria and see Vienna. I was told that Berlin, then still divided by the Wall, consisted of late-20th-century high-rises (West) and Concrete Collective Chic (East).

I went to Vienna. It was and is a beautiful city, with much of its late 19th- and early 20th-century character still intact. And while there will always be other claimants to the honor, it's arguably still the classical-music center of the planet. I managed to score standing room for a performance of Puccini's *Turandot* at the Vienna State Opera (as I recall, standing room at the time was the equivalent of about \$1 US). Act 1 was so rough that it evoked catcalls from the unforgiving Viennese audience, but after that, things settled in nicely.

Vienna is also the headquarters of Vienna Acoustics, says Capt. Obvious (though today you can't always be sure of such things). Peter Gansterer, who remains both its head and chief designer, founded the company in 1989. My first experience of listening to their loudspeakers was some 10 years ago, at a Consumer Electronics Show. When I walked into VA's room, the speakers I spotted very much resembled, at least physically, the company's current Concert Grand Series—the same slender cabinets populated by several drive-units, the largest of which was about 6" in diameter but looked smaller, and the same transparent plastic cones, ribbed to enhance their piston movement.

But it wasn't the beautiful cabinets and unusual-looking drivers that seized, then held my attention. It was the sound. In a sea of speakers humming away in other rooms at that show, many of them apparently designed to sound polite and laid-back in the fashion then and still popular, the Viennas jumped out and grabbed me with their punchy,

quick, even vivid sound. But they weren't just impressively dynamic; they *sang* to me. The audition was far too brief—though I've long forgotten most rooms at most audio shows, that one I remember.

But while I've been reviewing speakers longer than the company has been in business, never, until now, had I had the opportunity to live with a pair of Vienna Acoustics for an extended period. The planets were never quite in alignment, perhaps because by the mid-1990s I had become occupied with *Stereophile Guide to Home Theater*, and Vienna Acoustics didn't enjoy wide visibility in that part of the audio market. Much later, Steven Stone reviewed their Strauss surround-speaker package in *SGHT*, but I never heard the system. Currently, Vienna Acoustics offers the Maestro Grand center-channel model, an on-wall speaker in its Concert Grand series that's also suitable for surround use, and the Poetry, a center-channel for its upmarket Klimt line.

All of the final assembly for Vienna Acoustics speakers takes place near Vienna, but the cabinets are actually made in Italy. The company also designs its own drivers, and has them built to its specs elsewhere in Europe, by companies such as Scan-Speak and Eton. Driver design and speaker system design are very different skill sets, and while many speaker makers say that they design and sometimes even build their own drivers, that's often a bit of a stretch. But I can confirm that the woofer and midrange drivers in the Beethoven Baby Grand—Symphony Edition (\$6000/pair) look like nothing I've seen elsewhere. I'm quite familiar with the stock catalog drivers made by companies such as SEAS, Scan-Speak, Vifa, Eton, and others—many are first-class products, and you might be surprised by the pedigrees of the companies that use them. But some manufacturers want something more exclusive, or have ideas of their own they want implemented. Vienna Acoustics is clearly one of

SPECIFICATIONS

Description Three-way, floorstanding, bass-reflex loudspeaker. Drive-units: 1.1" hand-coated, silk-dome tweeter; 6" X3P midrange; two 6" X3P Spider-Cone woofers. Bass function: impulse-optimizing QB3 (Quasi-Butterworth). Crossover frequencies: 150Hz,

2.3kHz. Crossover: three-way, 6dB and 12dB Bessel. Frequency range: 30Hz-22kHz. Sensitivity: 91dB. Impedance: 4 ohms. Recommended amplification: 40-250W. **Dimensions** 39.6" (1016mm) H by 8.4" (216mm) W by 14.6" (375mm) D. Weight: 61 lbs (27.75kg) each.

Finishes Piano Black, Cherry; for Piano White, Rosewood, add \$500/pair.

Serial number of units reviewed 32321.

Price \$6000/pair. Approximate number of dealers: 90.

Manufacturer V.A. Lautsprecher-manufaktur GmbH, Boschanstrasse 3, 2484

Weigelsdorf, Austria. Tel: (43) (1)88-96-815. Fax: (43) (1)88-96-599. Web: www.vienna-acoustics.com. US distributor: VANA Ltd., 778 Third Street, Unit C, Mukilteo, WA 98275. Tel. (425) 610-4532. Fax: (425) 645-7985. Web: www.vanaltd.com.



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the latter. For example, the tweeter used in the Baby Grand is new with the Symphony Edition but is also used in some of VA's pricier designs. It looks generic, but the secret sauce of any driver is seldom revealed by looks alone.

Vienna Acoustics calls the unique, transparent material used in the Baby Grand's woofer and midrange cones X3P—it's a combination of the thermoplastic TPX and three polypropylene-based synthetics. The stiffening ribs in the woofer cones are clearly visible—Vienna Acoustics call this their Spider-Cone design, for obvious reasons. But the midrange driver omits the ribs. This must have been a deliberate design choice—the midrange in the earlier version of the Beethoven Baby Grand (the non-Symphony Edition)—*does* have the ribs. The speaker's crossover network employs first- and second-order filters at 150Hz and 2.3kHz.

The cabinets aren't all that large by the standards of \$6000/pair floorstanders, but they're solidly braced and beautifully made. Of the four available finishes, Piano White and Rosewood are extra-cost options. The review samples were in a Piano Black that would likely meet with Steinway's approval. The cabinet is narrow, but stabilized by outriggers fitted with spikes hefty enough to secure the rails on the first leg of California's planned high-speed train to nowhere (with apologies to Fresnoans and Bakersfieldians). They can be easily adjusted and locked from the top.

Around back are a single port and a single pair of binding posts; Vienna Acoustics is no fan of biwiring, but these are some of the best posts I've seen. They can accept banana plugs or spades, are well spaced and not recessed, and can

Peter Gansterer, who remains both its head and chief designer, founded Vienna Acoustics in 1989.

be easily tightened with the fingers. Grilles are provided, but were not used in the review.

Room, Setup, Gear

I set up the Beethoven Baby Grands in my listening room, which is 27' long by 15.5' (at

its widest) by 8' high. All of the windows are blocked with lightweight soundboard (Homasote, or something similar), installed to accommodate the video-projection chores I was doing for SGHT when I first set up shop here, in 2000. (SGHT was retitled *Stereophile Ultimate AV* in 2004, and was combined with *Home Theater* magazine in 2008; the latter morphed into the present *Sound & Vision* in 2013.) The soundboard does have some acoustic effects in addition to its primary purpose of blocking light for daytime video evaluations, and it's certainly more acoustically dead than the glass window itself, which occupies much of the long wall adjacent to the right speaker.

The setup I still employ was judged optimal when I acquired this room in 2000, and since then has changed only slightly—mostly with a wider loudspeaker spacing to accommodate a new, 96"-wide projection screen (retracted and out of the, um, picture for this review). The front speakers sit about 7' out from the short wall behind them, firing down the room's length. The left speaker is about 4' from the left wall, the right speaker about 3' from the

MEASUREMENTS

I used DRA Labs' MLSSA system and a calibrated DPA 4006 microphone to measure the Vienna Acoustics Beethoven Baby Grand SE's frequency response in the farfield, and an Earthworks QTC-40 for the nearfield responses. Vienna Acoustics specifies the Baby Grand's sensitivity as a very high 91dB. My estimate was significantly lower, at 86.5dB(B)/2.83V/m. The impedance is specified as 4 ohms, and while the average magnitude in the midrange and below is indeed 4 ohms, the impedance drops to 2.3 ohms at 90Hz (fig.1, solid trace), a frequency

where music has high energy. The impedance also remains above 5.5 ohms for the entire treble region. Fortunately, the electrical phase angle remains relatively benign, but I would still recommend a good 4 ohm-rated amplifier to drive this speaker.

A discontinuity is visible in the impedance traces around 1.2kHz, but nothing else in the midrange suggests the presence of cabinet panel resonances. However, when I investigated the vibrational behavior of the enclosure's walls with a simple plastic-tape accelerometer (similar to a piezoelec-

tric acoustic-guitar pickup), I found a strong mode at 734Hz that was present over most of the side panels (fig.2), as well as on the baffle between the midrange unit and the upper woofer. Fortunately, this resonance is sufficiently high in frequency that I doubt it would lead to coloration, though it is fair to note that Tom Norton heard some emphasis on piano notes.

The saddle between 30 and 40Hz in the impedance-magnitude trace suggests that this is where the single port on the rear panel is tuned, and indeed, the summed output of the woofers (which have identical responses) has the expected minimum-motion notch at 39Hz (fig.3, red trace). The port's output (blue trace), however, peaks slightly lower in frequency, though its upper-frequency rolloff is smooth and free from resonant modes. The crossover from the midrange unit (green trace) appears to occur at the specified 150Hz, with a third-order acoustic rolloff for the midrange driver. This low crossover frequency means that that single unit handles all fundamentals and almost all harmonics of male and

Stereophile VA Beethoven BE Impedance (ohms) & Phase (deg) vs Frequency (Hz)

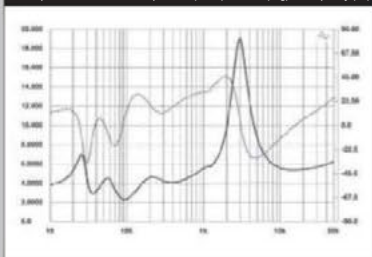


Fig.1 Vienna Acoustics Beethoven Baby Grand SE, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

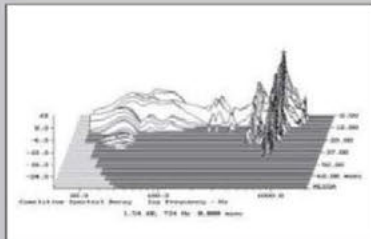


Fig.2 Vienna Acoustics Beethoven Baby Grand SE, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of side panel level with upper woofer (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).



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right, and both are toed in toward the center listening seat. A carpet covers most of the oak floor, which is laid over a crawl space, not a concrete slab. With the carpet, the soundboard, and a few additional acoustic panels, the acoustics of the room are a bit better damped than a typical domestic room of this size. Shelves full of LPs, CDs, SACDs, DVDs, BDs, and even LDs (laserdiscs!) provide useful diffusion. The walls are lath and plaster, not drywall. A doorway to the kitchen opens to the left of the left speaker; two other doors are generally left closed during listening.

The Beethoven Baby Grand Symphony Editions arrived in two shipping boxes joined at the hip. Each box was little wider than the speaker inside and, by itself, very unstable. Unless the two boxes are lashed together, they can easily fall over in shipment. Both speakers bore the same serial number, which suggests that they were matched at the factory (though Vienna makes no such claim).

I drove the Viennas full-range with two-channel sources, at first using my resident Integra DTC-9.8 surround-sound processor strictly as a 2.0-channel digital preamp, and later swapping it for a strictly analog Jeff Rowland Design Group Consummate preamplifier. The primary power amplifier was a Parasound Halo A 51—a five-channel amplifier, though for this review I used only two channels. The source was a Marantz UD7007 universal Blu-ray player connected to the Integra with a coaxial digital cable, or to the Consummate via analog interconnects.

Most of my listening was to CDs, but I also used the Marantz for SACDs (two-channel DSD tracks only), which



“Wow, do these speakers do detail,” reads p.1 of my listening notes.

were played only through the Consummate preamp and its two-channel analog link to the player.

Some manufacturers recommend breaking in their speakers for ungodly amounts of time. Others disdain the break-in concept, apart perhaps for a few minutes to allow the drivers’ suspensions to loosen up. In my opinion, listening to music while speakers settle in is a questionable practice; it’s just as likely that your ears are breaking in to the sound of the speakers than anything dramatic happening to the speakers themselves. Nevertheless, I followed my usual practice of playing pink noise at moderate levels through the Viennas for about 100 hours before doing any serious listening. (The speakers faced each other and were wired out-of-phase, to minimize the noise.) After that, it was time for music.

Listening

Though a precise comparison of the sounds of the Symphony Edition of the Beethoven Baby Grands and that Vienna Acoustics demo of a decade ago is of course impossible, my

measurements, continued

female voices and TJN did comment very favorably on how the Beethoven Baby Grand reproduced vocals. The woofers roll off with a second-order slope above their relatively restricted passband of 60–120Hz, and there are no significant resonances in their midrange output. The complex sum of these nearfield outputs (black trace below 300Hz) has a broad peak between 60 and 150Hz, but this will be mainly due to the measure-

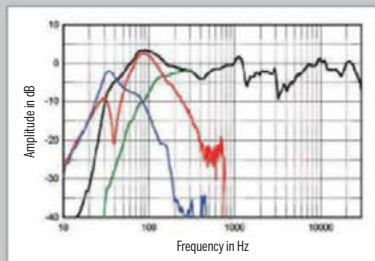


Fig.3 Vienna Acoustics Beethoven Baby Grand SE, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with nearfield responses of: midrange unit (green), woofers (blue), port (red), with their complex sum of nearfield responses respectively plotted below 300Hz, 750Hz, 450Hz, 300Hz.

ment technique, which assumes a 2pi (hemispherical) loading for the drivers. The low frequencies are down by 6dB at the port tuning frequency of 39Hz. As TJN says, this is still a relatively small floorstander, and should not be expected to offer prodigious amounts of low frequencies.

Higher in frequency in fig.3, the midrange unit’s output rises to reach a peak just above 1kHz, which is suspiciously close to the frequency of the discontinuity noted in the impedance traces. There is then a disruption in the response trace at 3kHz, above which the tweeter’s output is relatively even all

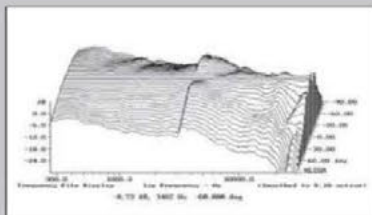


Fig.4 Vienna Acoustics Beethoven Baby Grand SE, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90–5° off axis, reference response, differences in response 5–90° off axis.

the way to 30kHz, the upper limit of this graph. All things being equal, I would have expected the lower-frequency peak to have added a slight nasal coloration. However, while TJN didn’t remark on any such coloration, he did write that “female and male voices and solo instruments, in addition to being uncolored, often sounded surprisingly immediate, but without turning edgy or in my face.” It is possible, therefore, that the Vienna Acoustics speaker’s behavior in the low treble is accentuating detail rather than adding coloration.

The plot of the Beethoven Baby Grand’s horizontal dispersion (fig.4) reveals that the suckout between 3 and 5kHz tends to fill in to the speaker’s sides (shown by the cursor position), which in a moderately sized room with typical furnishings will make the speaker’s treble sound better in balance with the midrange than the on-axis curve suggests. Other than that, the contour lines in this graph are evenly spaced, with the speaker becoming increasingly directional in the top octave, as expected from a 1”-dome tweeter. The plot of the Beethoven’s vertical disper-



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general reactions to both were very similar. “Wow, do these speakers do detail,” reads p.1 of my listening notes. I heard subtleties I’d missed before. But while it would be appropriate to call these speakers a bit bright—“open and airy” might be more accurate—in no way did they sound hard. In fact, if anything, they sounded slightly forgiving in the mid-treble or “brightness” region.

Male voices—such as Aaron Neville’s on his *Warm Your Heart* (CD, A&M 397 148-2) and Michael Jonasz’s on his *La Fabuleuse Histoire de Mister Swing* (CD, WEA 22924)—sounded clean and neutral, with no clearly recognizable coloration. The unique textures of these singers’ voices were clearly reproduced. Sibilants were audible, but in a way that close miking might have produced, and were neither unnaturally sibilant nor sizzly. The soundstage was also impressive, with the singers tightly locked in to the center. The latter, however, was no surprise; it’s more common than not in my room, likely the result of speaker placement well clear of adjoining walls, particularly the wall behind the speakers. The downside of such positioning is that the bass was a bit subdued, as was evident with the usually bass-heavy Jonasz album. But it wasn’t lean, and listeners unfamiliar with this recording might not be aware that anything was missing.

Overall, the bass seemed more subdued than smash-mouthed, but I never found it lacking. Some basic measurements showed it to be reasonably strong down to 40Hz, but largely gasping for air at 30Hz—not surprising



Solo-piano recordings sounded well balanced on the bottom end and clean and clear through the middle.

from a relatively small floorstander. For bass testing I often pull out a compilation CD-R given me some years ago by a manufacturer at a CES. The sources of the tracks aren’t well specified, so I can’t give you precise references, but they run the gamut from pipe organ to synth to bass drum. Yes, I’ve heard far more room-shaking bass in my relatively large listening room than the Viennas offered, though usually from either a much larger speaker or a subwoofer. But even with the bass-heavy selections on this and other discs, I rarely missed that bottom octave. The Baby Grands responded rapidly to leading-edge transients, and since the “quickness” of a drumstroke is defined primarily by its higher overtones, drum recordings of all types, from timpani to Kodo drums, often made me sit up and take notice. While the very bottom end lacked the range to get that deep-down, low-frequency, reverberant hall sound, with less transient-loaded bass information it was nevertheless very

measurements, continued

sion, referenced to the tweeter-axis response (fig.5), shows that a strong suckout develops at 2.8kHz more than 5° above the tweeter. Don’t listen to this speaker while standing. With the speaker on its plinth, the tweeter is 40" from the floor, which is 4" higher than the typical ear height of a seated listener. Fig.5 also reveals, however, that the Baby Grand’s response doesn’t significantly change up to 10° below the tweeter axis.

The Beethoven Baby Grand’s step response on the tweeter axis (fig.6) indicates that its tweeter and midrange unit are connected in positive acoustic

polarity, its woofers in inverted polarity. But, as always, what matters more than absolute polarity is how the individual drive-units’ steps integrate in the time domain. The Vienna is excellent in this regard, the decay of the tweeter’s step smoothly blending with the start of the midrange unit’s step, and the decay of that step smoothly blending with the negative-going beginning of the woofers’ step. However, some undulations are visible in this graph in fig.6, and the cumulative spectral-decay plot on the tweeter axis (fig.7) shows strong ridges of delayed energy at the frequencies of the treble problems in the frequency-

response graph (fig.3). I really don’t like to see this behavior, but looking at the in-room response in TJN’s “What’s Up with Flat?” sidebar, it appears that the higher-frequency resonance doesn’t affect the smooth balance of the Baby Grand’s treble. And as this resonance is of very high Quality Factor (Q), the speaker needs to be reproducing a signal of almost precisely the same frequency to be fully excited.

Overall, the Vienna Acoustics Beethoven Baby Grand Symphony Edition’s measured performance suggests a carefully balanced design, the effects of measured flaws in the midrange unit being reduced by other factors.

—John Atkinson

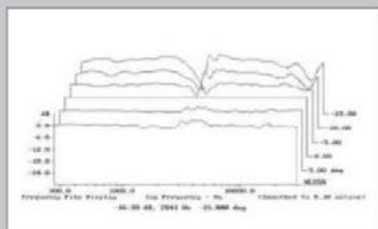


Fig.5 Vienna Acoustics Beethoven Baby Grand SE, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 15–5° above axis, reference response, differences in response 5–10° below axis.

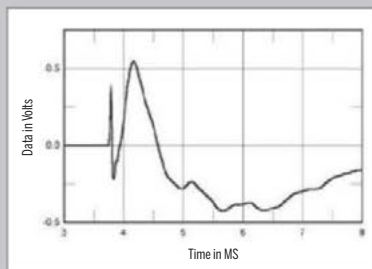


Fig.6 Vienna Acoustics Beethoven Baby Grand SE, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

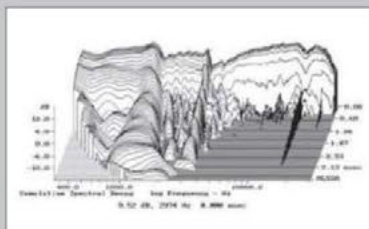


Fig.7 Vienna Acoustics Beethoven Baby Grand SE, cumulative spectral-decay plot on tweeter axis at 50" (0.15ms risetime).

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satisfying, and never thin or anemic.

Even with pipe organ, the Viennas had enough bass power to provide a realistic feel, though organ fans may want to look further to get that count-the-cycles feeling that only much larger speakers can provide. I've only once experienced the deepest bass in John Rutter's *Requiem*, as performed by Timothy Seelig and the Turtle Creek Chorale (CD, Reference RR-57CD): in a show demo that included an 18" Revel Ultima subwoofer. The Viennas couldn't do that, but, again, most listeners won't think anything is missing. The VAs' bass provided a generous, warm undertone for the singers, which the speakers also reproduced with excellent depth and dimensionality.

I did find the Vienna's bass to be a little soft and furry with some recordings, and more so with such transient-limited material as pipe organ or bass synth than more percussive bass

The Baby Grands responded rapidly to leading-edge transients.



ASSOCIATED EQUIPMENT

Digital Source Marantz UD7007 universal Blu-ray player.

Preamplification Jeff Rowland Design Group Consonance preamplifier, Integra DTC-9.8 preamplifier-processor.

Power Amplifier Parasound Halo A 51.

Cables Interconnects: Kimber Kable AGDL digital coaxial (sources to pre-pro), TARA Labs Rectangular Solid Core original (sources to preamp), Cardas Hexlink (preamps to power amp). Speaker: Monster Cable M1.5.

Accessories Monster Cable HTS5000 Reference Power Center (preamps, source).—Thomas J. Norton

WHAT'S UP WITH FLAT?

Some 30 years ago (yikes! has it been that long?), the late J. Gordon Holt, founder of *Stereophile*, wrote an "As We See It" column titled "Down With Flat!" (see www.stereophile.com/asweseeit/138/index.html). It raised some hackles. Gordon, of course, didn't intend it to mean that smooth response (not necessarily the same thing as flat) wasn't desirable, and he was clearly speaking of a speaker's in-room response. In any case, I was reminded of the piece as I was evaluating the Vienna Acoustics speakers. Why? Because I've read many reviews of Vienna models (not necessarily this one) that included measurements like those John Atkinson takes for speakers reviewed in *Stereophile*—measurements revealing in-room frequency responses that are anything but flat, or even particularly smooth.

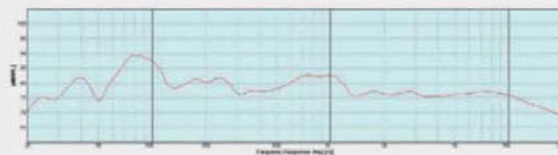
We'll see what JA's measurements have to say about the Beethoven Baby Grand – Symphony Edition, but in the meantime, I simply had to see how they measured in my room. However, I took these measurements only after I'd done all of my listening tests and finished the "Listening" section, above.

Having JA do the honors was impractical—we live 3000 miles apart. And while my measurements were taken at the listening position, and averaged 21 readings taken at and around that location, they can't necessarily be compared with the in-room measurements JA performs for some of *Stereophile*'s speaker reviews. I used the Omnimic system from Parts Express, a less sophisticated setup than JA uses.

The in-room response curve (fig.1) was relatively flat, about ± 4 dB from 125Hz to 10kHz, with the expected uniformity issues common to my room below 125Hz, including a prominent peak at about 80Hz. But the top end was surprisingly smooth. A small dip in the 3–4kHz range (relative to the average responses between 1.5 and 3kHz and between 4 and 9kHz) may explain the Vienna's lack of hardness and edge, despite its slightly bright sound.

The most prominent feature was a plateau of roughly 5dB between 700 and 1100Hz (relative to the levels at 450Hz and 1.5kHz). This could well explain the Beethoven Baby Grand's immediacy with voices and solo instruments.—Thomas J. Norton

Vienna Acoustics
Beethoven Baby Grand
SE, spatially averaged
response in TJN's
listening room.



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instruments—but that's been true of most speakers in my room. I've said it before, and it's worth repeating: A reviewer can tell you only how a speaker will perform in the bass in his or her room—never in *your* room.

Other recordings continued to impress me. Solo-piano recordings, such as Minoru Nojima's *Nojima Plays Liszt* (CD, Reference RR-25CD), sounded well balanced on the bottom end and clean and clear through the middle. My only reservation was that some of the very highest keys sounded too prominent. Percussion recordings were exceptionally, often shockingly well defined. Yes, cymbals could sound hard and metallic through the Beethovens, but if you've never sat within 20' of an orchestra's percussion section, as I once did, don't tell *me* that orchestral cymbals should sound sweet. If they're close-miked, they certainly don't.

Female and male voices and solo instruments, in addition to being uncolored, often sounded surprisingly immediate, but without turning edgy or in my face. The Viennas seemed to love this sort of music most of all; many of the more memorable moments I had with them were with just such recordings.

To check how the speakers responded with a different front end, I later replaced the Integra pre-pro with my classic but still pristine Jeff Rowland Consummate preamp, connecting the latter to the two-channel analog outputs of the Marantz player. The amp was still the Parasound Halo A 51, and this time the sources were both CDs and SACDs.

The top end of the system was now sweeter—not surprising, as that's part of the Rowland's signature sound. So while there was a little less air and sparkle than before,

The Beethoven Baby Grand's up-front but not overripe nature may not suit everyone, but for some, it will certainly be love at first listen.

with leading transient edges *slightly* softened, all of my other observations remained the same. Imaging was precise, bass clean and perhaps a bit warmer than with the Integra, and voices and instruments just a bit forward (though a little less than before). The SACDs I played also sounded impressive—none more so than Opus 3's *Showcase*

sampler (SACD/CD, Opus 3 SACD 21000), one of the best-sounding SACDs I've heard. I'm still wrapping my head around high-resolution recordings—in my opinion, they matter only if the original recording is pristine, and this one certainly is. The Viennas handled all of it beautifully.

Conclusion

Despite its tongue twister of a name, I thoroughly enjoyed my time with the Vienna Acoustics Beethoven Baby Grand Symphony Edition. Yes, \$6000/pair is a little pricey for its size in today's market, but not outrageously so, given the speaker's first-class European labor and workmanship. That aside, its lively but always natural-sounding balance kept me listening to recordings long after I'd planned to move on to others. The Beethoven Baby Grand's up-front but not overripe nature may not suit everyone, but for some, it will certainly be love at first listen. ■

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(quoted in HiFi World, September 2013)



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HERB REICHERT

Sjöfn HiFi (the clue)

LOUDSPEAKER

I was sitting in my high chair, eating strained peas. My father was walking around the kitchen with a wooden box in one hand and a cord with a plug in the other. The box and the cord were attached to each other. I was inspired to utter my first actual sentence: "Plug it in over there!" Moments later, a man with a disturbing voice began squawking from inside the wooden box. It was a radio. Schnapps, our dachshund, barked angrily. I started to cry. Ever since, I've been charmed, fascinated, and mostly annoyed by wooden boxes that talk to me.

At the 2014 Capital Audiofest (July 24–27¹), I listened to nearly 40 different stereo systems in three days. Squawking boxes everywhere! Only a few jumped out of the noisy swirl as sounding rich and musical. One of those was Sjöfn HiFi's (the clue)[™]. I introduced myself, and sat smiling as Sjöfn's Lars Erickson played music and explained the thinking behind the new speaker, hereafter referred to as The Clue.

Erickson described The Clues as "affordable full-range speakers" and "affordable state-of-the-art monitors." He said also that, because of The Clue's recommended near-wall placement, they are "wife friendly." I told him I liked what I was hearing and asked if I could review a pair. As I left, he piped up: "So, Herb, what's your favorite small loudspeaker?"

"Right now, it's the KEF LS50," I said, then added that I owned and loved the Totem Model One Signatures and a nice pair of Rogers LS3/5As.

He laughed. "This is going to be easy—The Clue will trounce all of those."

Strong words, I thought, especially when you're talking about a nondescript, generic-looking, made-in-the-US,



Lars Erickson said that, because of The Clue's recommended near-wall placement, they are "wife friendly."

87dB-sensitive, wood-veneered box measuring 13.9" high by 7.9" wide by 10.9" deep and costing only \$999/pair when sold direct from Sjöfn's website—boxes so anonymous they don't even have logos, nameplates, or serial numbers. What is *not* so anonymous about The

Clue is how Sjöfn HiFi's chief designer, Jim Croft, seems to have rediscovered a bit of lost wisdom and used it to wring almost 10 octaves from a diminutive two-way.

A Different Use Model

From the first radios and cinema screens to the halcyon

¹ See www.stereophile.com/category/capital-audiofest-2014.

SPECIFICATIONS

Description Two-way, reflex-loaded, stand-mounted loudspeaker. Drive-units: 0.875" silk-dome tweeter, 5.5" damped paper-cone woofer. Frequency range (in-room): 28Hz–42kHz. Crossover frequency: 2.3–11.4kHz (axis

transitional). Sensitivity: 87dB/W/m. Impedance: 6 ohms nominal, 4.2 ohms minimum. Recommended amplification: 30–150W. Dimensions 13.9" (355.6mm) H by 7.9" (203.2mm) W by 10.9" (280mm) D. Weight:

16.5 lbs (7.5kg). **Finishes** Piano Black lacquer, Cherry or Maple wood veneers. **Serial numbers of units reviewed** None found. **Price** \$999/pair including shipping direct from Sjöfn

website. Approximate number of dealers: Sold direct. Warranty: 6 years. **Manufacturer** Sjöfn Hifi Tel: (206) 605-8590 Web: www.sjofnhifi.com



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days of bookshelf speakers in dorm rooms, virtually all 20th-century loudspeakers were designed to give pleasing, articulate sound in specific environments: public-address systems on ceilings, radios on tables, Klipschorns in corners, and bookshelf speakers just about anywhere we felt like putting them. Then stereo replaced mono, and loudspeakers like the Quad ESL, the Ohm Walsh, the Magneplanars, and stand-mounted minimonitors changed what Croft calls “the use model.” Suddenly we had dipoles/bipoles, the Rule of Thirds, soundstages, and room tuning. Today, the last thing any perfectionist audio person wants is a speaker in the corner.

When I spoke with him, Croft told me, “When we first conceived The Clue, we explored all potential ways to create a state-of-the-art device—and to do so in a way that would make it affordable. . . . In comparing our performance targets to the majority of loudspeakers—both cost-no-object and reasonably priced designs—a few things became apparent:

“1) Any system that was going to achieve state-of-the-art performance—and do so consistently—would have to take room interaction into account.

“2) Apparently, in an attempt to be all things to all people, the makers of [other] speakers suggest that they can be used effectively in any environment or arrangement that is domestically acceptable.

“To provide us with a significant leg up in maximizing performance, cost-effectively and consistently, we designed for a singular, optimized-use model.”

Croft’s words made me ask: Do you mean that the era of “I take it home and move it around ‘til it sounds pretty good, but never know if it’s right” is over?

Set-Up

The Clue comes with a printed setup guide that’s very

This old, familiar record sounded unequivocally and suspiciously different from how it’s sounded through any other system.

precise about how big the room should be (less than 2500 cubic feet) and where the speakers should be placed in it: on stands 19–22” high—I placed the review samples 21.5” above the floor—and less than 2.5” from the front wall (I put mine less than 2”). So far, this is all kinda “wife friendly” (a term I dislike), but the setup guide continues: “Position the loudspeakers so that the ratio of the distance

between them to the distance to your ears at the listening position is approximately 1:1.18.” Honey, can I move the couch? I placed The Clues 6’ apart; my couch was about 7.5’ away, which made a ratio of 1:1.25. Last but not least, The Clues “are designed to be toed-in at an angle of about 22.5 degrees,” which I did.

Listening

It was August, so I was using Rogue Audio’s cool-running, 100W, class-D Sphinx integrated amplifier with my VPI Traveler turntable and tonearm and Ortofon 2M Black cartridge. I put on Commander Cody and His Lost Planet Airmen’s *Lost in the Ozone* (LP, Paramount PAS 6017), a classic stoner-roadhouse record that’s basically an okay studio recording from 1971. “Hot Rod Lincoln” was its memorable jukebox and radio chart-topper, but hidden on side 2 are two well-recorded live numbers: “What’s the Matter Now?” and Eddie Cochran and Ned Fairchild’s rockabilly

MEASUREMENTS

I used DRA Labs’ MLSSA system and a calibrated DPA 4006 microphone to measure the Sjöfn Clue’s frequency response in the farfield, and an Earthworks QTC-40 for the nearfield responses. My estimate of the Clue’s B-weighted voltage sensitivity confirmed the specification of 87dB/2.83V/m. The minimum impedance is specified as 4.2 ohms; the solid trace in fig.1 shows that our samples went a little lower than that, reach-

ing 3.7 ohms at 270Hz and 2.67 ohms at 4.7kHz. However, as the electrical phase angle is never high when the impedance is low, a good, 4 ohm-rated amplifier should have no problem driving the Clue.

There is a small discontinuity in the impedance traces just below 400Hz; when I investigated the cabinet’s vibrational behavior with a plastic-tape accelerometer, I found a very strong resonant mode at 387Hz on all

surfaces (fig.2). This resonance is high enough in amplitude and low enough in frequency that I would be surprised if it didn’t give rise to audible coloration. However, it’s fair to note that Herb Reichert didn’t comment on any midrange congestion that might have resulted from this behavior.

The saddle at 36Hz in the impedance-magnitude trace suggests that the port is tuned to this frequency; the port’s output, measured in the nearfield (fig.3, red trace), does indeed peak between 30 and 40Hz. However, the corresponding minimum-motion notch in the woofer’s nearfield response (blue trace) occurs a little lower in frequency, at 33Hz. This is a low tuning frequency for a relatively small speaker, and the Clue’s overall low-frequency response (black trace) actually starts to shelve down two octaves above the port’s peak output. It must be remembered that the Clue is intended to be used when placed flush

Stereophile Sjöfn The Clue Impedance (ohms) & Phase (deg) vs Frequency (Hz)

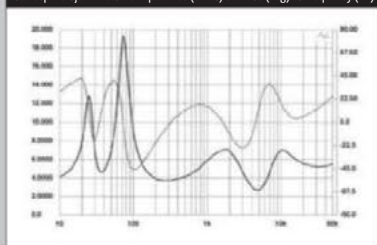


Fig.1 Sjöfn Clue, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

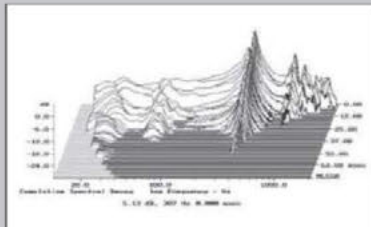


Fig.2 Sjöfn Clue, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of side panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

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masterpiece, “20 Flight Rock,” sung by Commander George Frayne and recorded at the Long Branch Saloon, in Berkeley, California.

Via the newly installed Clues, these songs sounded extremely *live*. Ambient room sound and crowd noises were vividly displayed and highly detailed. Almost instantly, my brain reached for the word *transparent*. But—this old, familiar record also sounded unequivocally and suspiciously *different* from how it’s sounded through any other system—including the Dynaco ST 120/A25 system I first heard it on in college.

Lars Erickson told me that most other small speakers have a “bump” designed into the upper-bass response, and that The Clue does not. But this record didn’t sound merely *different*—its fundamental tonal character seemed off. I wasn’t hearing enough chest, texture, or stoned maleness in the Commander’s voice. My kingdom for a bump! For me, the three octaves between 50 and 400Hz are hypercritical in making music sound real and enjoyable—a bump or a dip here can be fatal. Through The Clues, Frayne’s voice and piano, and West Virginia Creeper’s pedal steel, sounded thin and bleached through precisely that region. The upper midrange and lower treble (near the speaker’s crossover frequency of 2.3kHz) sounded smooth and seamless, but maybe I was experiencing some weird comb filtering in the lower midrange/upper bass? It felt like several left-hand

I was able to use The Clues’ strongest points—their detail and transparency—to aid my understanding and enjoyment of the music.

keys on Frayne’s piano had gone missing.

Thinking *I bet this’ll sound good*, I reached for another college favorite: the soundtrack album for *Cabaret* (LP, ABC ABCD 752), and put on Sally Bowles (Liza Minnelli) singing one of her best songs, “Maybe This Time.” Just as with Commander Cody, I heard extreme clarity and detail, but Minnelli sounded rapid, bloodless, and unreal. Her voice was just sound—no skin or sin. The lack of weight in the upper bass pretty much eliminated the upright piano and drum kit from the experience.

Exasperated, I tried for a while not to think about audio reviewing. I played one record after another, doing my best not to analyze, but just enjoy. But every record made me tense and unsettled, so before it finished I’d take it off and put on another, hoping it might be more satisfying. One recording did stand out and play quite well: Kander and Ebb’s “You’re My Thrill,” from the soundtrack to Philip Leacock’s 1960 film, *Let No Man Write My Epitaph*, on Ella Fitzgerald’s *Clap Hands, Here Comes Charlie!* (CD, Verve/Classic VSCD-4053). This disc showed enough of that great force we call “Ella” to make me forget for a while that I was reviewing speakers, and reminded me of the good sounds I’d heard in Sjöfn’s room at the Capital Audiofest.

Changes

Annoyed with my inability to get The Clues to sing, and trying to grasp what was really happening, I remembered that, like The Clue, my much-loved Totem Model One Signatures (\$2295/pair) also needed to be toed in so that I could just barely see the outer edges of their cabinets. I placed the Totems in my room’s sweet spot, about 19" from the front wall, and played “You’re My Thrill” again (I never tire of this record). Instantly, the bass was richer and deeper. The trombone, which had sounded skinny and cold through

measurements, continued

with the wall behind it. However, as the nearfield measurement technique assumes just such a condition, this graph therefore correlates with HR’s finding the speaker’s low frequencies to sound lean. And note the high-Q resonance in the port’s output at 800Hz.

The right portion of fig.3 shows the Clue’s farfield response, averaged across a 30° horizontal window on the tweeter axis. It is not all flat, but discussing the implications is not easy, as it depends on which frequency region(s) the listener’s ear/brain takes as a reference. If the peaks in the high midrange and mid-treble are heard as correct, the lows will be shelved down, the presence region will sound way too polite, and the top octave will be lifeless. But if the midrange and presence regions are heard as being correct, then the aforementioned peaks will be heard as colorations.

In rooms of small to medium size, the balance will also strongly depend

on the speaker’s radiation patterns in the horizontal and vertical planes. Fig.4 shows the Sjöfn’s horizontal radiation pattern, normalized to the response on the tweeter axis. The contour lines in this graph are smooth and evenly spaced in the midrange and low treble; however, the woofer becomes quite directional at the top of its pass-

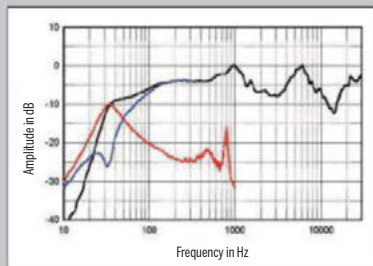


Fig.3 Sjöfn Clue, anechoic response on tweeter axis at 50", averaged across 30° horizontal window and corrected for microphone response, with nearfield responses of woofer (blue) and port (red) and their complex sum (black), respectively plotted below 300Hz, 1kHz, 300Hz.

band, which results in a significant lack of off-axis energy in the region where the on-axis peak in the mid-treble begins to develop. In the top octave, where the trace in fig.3 has a severe suckout, there is actually a lot more energy off axis, which in a small room like HR’s will probably give enough output in the top two octaves. Note that HR did write that the Clue’s “high frequencies were extended and well dispersed.” In the vertical plane (fig.5),

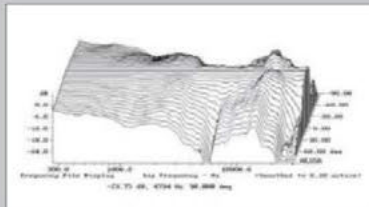


Fig.4 Sjöfn Clue, lateral response family at 50", normalized to response on tweeter axis, from back to front: differences in response 90–5° off axis, reference response, differences in response 5–90° off axis.



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The Clues, was now too fat and warm. I felt I'd fallen into a Jack Sprat and Wife situation: The Totems played slightly fat in the lower midrange and upper bass, The Clue played noticeably lean. The Clues' smaller but much airier soundstage made the Totems' stage seem a bit thick and bloated. Hmmmm?

While speculating about what Jack Sprat's wife really looked like, I remembered that I'd asked Lars Erickson what amps they'd used to voice The Clue. "We used a number of amps, but primarily a Hegel H70 integrated." When I looked up reviews of the Hegel online, these words and phrases kept jumping out at me: "warm," "warmer," "internal warmth," "not overly detailed," "overly saturated," "strong upper bass," "massive," "weighty."

Realizing that the Hegel may have added all those traits I felt were missing from The Clue, I fired up my Line Magnetic LM-518 IA 22W integrated amplifier, with 845 tubes, just to hear what would happen. I didn't expect much—Erickson had told me that The Clue "liked power"—but I connected the Sjöfn's to the LM-518's 4-ohm taps and let'er rip with the Commander Cody tracks. Much to my surprise, this combination played forcefully and effortlessly. Don't ask me why, but now Andy Stein's saxophone in "20 Flight Rock" had those more flatulent textures and vivid colors I enjoy, the steel guitar had a little more Technicolor in its twang, the piano had a more authentic tone. This low-powered tube amp made The Clue noticeably more enjoyable. Thinking I might be on to something, I tried my ancient B&K ST-140 power amp and NAD 1020 preamp. The sound was even warmer, even more colorful.

While installing the Erickson-recommended Supra speaker cables and interconnects, I remembered how the legendary Linn Kans had also needed to be close to the wall behind them. Some Kan fans even cut holes in the wall

I heard extreme clarity and detail, but Liza Minnelli sounded vapid, bloodless, and unreal.

for the cables and binding posts! The Kans didn't image worth a damn, but they set new small-speaker benchmarks for bass, punch, and drive. Because they had such a remarkable upper bass and lower midrange, the Kans could play the boogie-woogie bejesus out of certain not-too-complex records. I also remembered

how Linn dealers used only records that showcased the Kan's strengths in their demonstrations, and avoided things like Mahler symphonies that made them seem harsh or unsophisticated. (I didn't buy the Kans because I thought my Badger Kit LS3/5As could better reproduce the scale and tone of a symphony orchestra.) I also remembered using, favorably reviewing, and completely enjoying Sally Bowles through the Spendor S3/5s.

Deciding it must now be showtime, I pulled out that fierce big-brain master of the keyboard, Egon Petri, playing Busoni's hallucinatory *Indianisches Tagebuch* (LP, EMI HQM 1112); and Bartók's even more dissonant and mind-expanding Sonata for Two Pianos and Percussion, with Bracha Eden and Alexander Tamir (LP, London CS 6583). I use fantastic musical performances the way some people use drugs, and Petri's version of these four studies based on Native American folk themes, and Bartók's folksong-inspired sonatas, are what I imagine taking peyote or mushrooms must be like. The Sjöfn—with the rich-sounding Zu Audio DL-103 cartridge and Roksan K2 BT integrated amp—tracked this extremely complex music with some authority, and allowed me, perhaps for the first

measurements, continued

the Sjöfn's radiation pattern suffers from severe suckouts at 5kHz above and below the tweeter axis, which will also work against the audibility of that mid-treble peak in the tweeter-axis response.

The Clue's step response on the tweeter axis (fig.6) indicates that both drive-units are connected in inverted acoustic polarity. The small height of the tweeter's step implies a high crossover frequency, most likely the

same 5kHz as the off-axis suckouts in the plot of vertical dispersion. There is a strange double arrival in the woofer's step. Finally, the cumulative spectral-decay plot on the tweeter axis (fig.7) reveals a clean decay throughout the treble, but with some delayed energy associated with the on-axis peaks centered on 1 and 6kHz.

Overall, to judge from HR's comments on the Clue's sound, the speaker's balance is dominated by that

shelved-down bass region. And while the Sjöfn's on-axis problems will be to some extent balanced by the off-axis behavior, especially in smaller rooms, I'm not surprised that when HR set up his Rogers LS3/5As, he found that even with that vintage speaker's own departure from a flat response, their octave-to-octave tonal balance was "significantly more realistic," and their soundstage was "more open and naturally proportioned."—John Atkinson

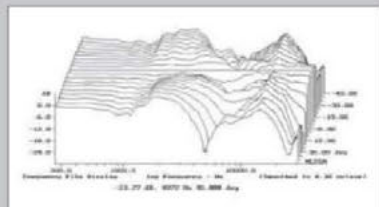


Fig.5 Sjöfn Clue, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45–5° above axis, reference response, differences in response 5–45° below axis.

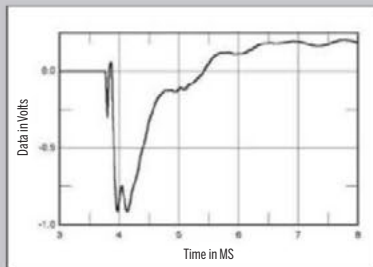


Fig.6 Sjöfn Clue, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

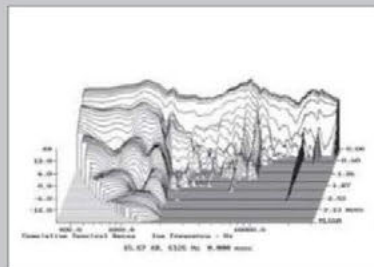


Fig.7 Sjöfn Clue, cumulative spectral-decay plot on tweeter axis at 50° (0.15ms risetime).

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time, to “see inside” the eerie dissonances of these very sophisticated interpretations. Finally, I was able to use The Clues’ strongest points—their detail and transparency—to aid my understanding and enjoyment of the music.

Context

Then the Imp of the Perverse bit me. I took my old Rogers LS3/5As off their wall brackets in front of my desk, placed them on stands 18" from the front wall, and played the Busoni again. Not surprisingly, these ancient British classics couldn’t match the Sjöfns’ apparent speed or definition. Even so, the Rogerses’ octave-to-octave tonal balance was significantly more realistic (yes, Lars Erickson, I heard that bump), and the soundstage was more open and naturally proportioned. Compared to The Clue, the Rogers reminded me of comfortable slippers and my well-behaved old dog—except now, I could enjoy something a bit stronger burning in my meerscham pipe.

No more Jack Sprat Syndrome, no more too much or too little—that’s what I found when I replaced the Rogers LS3/5As with the KEF LS50s (\$1499/pair). After playing the Petri and Bartók records all the way through with the LS50s, I rediscovered just how relaxed, balanced, and flat-out musically engaging these little speakers can be. The Clue, the Rogers, and the KEF all have 5" mid/woofers, but the LS3/5A and the LS50 produced sufficient weight and instrumental body to sound believable and not distracting. The Clue did not.

I don’t swear much, but when I replaced The Clues, the 5As, and the LS50s with my DeVore Fidelity Orangutan O/93s, I began repeating three-word exclamations that began with “Holy” and ended with the name of my headphone amp. If the KEFs added \$5000 to my piano sound, the DeVores (\$8400/pair) added another \$20,000.

With The Clues, the pianos were roughly 4' wide and maybe 3' tall, but distant sounding. With the O/93s, Egon Petri’s instrument became a *genuine*, full-size Steinway, with me and the mikes sitting right there up close to the pianist—I could have shot him with a rubber band.

Conclusions

At the beginning of the review process I felt, “Whoopie! I’m gonna review my first loudspeaker for *Stereophile*!” By the end, I felt as if I’d been knocked down and assaulted by an anonymous wooden box. Usually, the reviewer reviews the speaker; this time, it felt as if the speaker were reviewing me—as if I were being tested. I felt that my taste, my knowledge, and my ability to perceive sonic reality were under siege.

But feelings are not facts. I kept *thinking* that Sjöfn HiFi’s The Clue was probably extremely good—maybe even some sort of breakthrough, especially for the price. I mean, what the hell; The Clue *was* transparent and highly detailed. It played fast and smooth. Its high frequencies were extended and well dispersed. Its bass was sharp and detailed, and put in notable efforts below 50 Hz. The pair of them projected a wide, clear soundstage.

I did not have a Hegel H70 integrated amp, but I drove The Clues with a B&K ST-140 power amp and four integrations: a Rogue Audio Sphinx, a Line Magnetic LM-518 IA, a Creek 4330, and a Roksan K2 BT. Each made the Sjöfns sound very different. (Surprisingly, the speakers sounded best with the moderately powered B&K and Line Magnetics amps.) At the end of this whole process, I’m

ASSOCIATED EQUIPMENT

Analog Sources VPI Traveler turntable & tonearm; Thorens TD-124 turntable, SME 3009 II tonearm; Miyabi Mono, Miyajima Spirit, Ortofon 2M Black, Zu Audio Zu & DL-103 Mk.II cartridges.

Digital Sources Puresound A-8000 CD player, Line Magnetic LM 502CA DAC, Oppo DV-980H SACD/CD player.

Preamplification Soundsmith MMP3, Blue Horizon BN:09-11-009, Sentec EQ11 phono stages; Intact Audio, Audio Note S1 step-up transformers; NAD 1020 preamplifier.

Power Amplifier B&K ST-140.

Integrated Amplifiers Creek 4330, Line Magnetic LM518 IA, Rogue Audio Sphinx, Roksan K2 BT.

Loudspeakers DeVore Fidelity O/93, KEF LS50, Rogers LS3/5A (15 ohm), Sonus Essence, Totem Model One Signature.

Headphone amplifier: Schiit Asgard.

Headphones Audio-Technica ATH-M50X, Noontec Rio.

Cables Interconnect: Kimber Kable Silver Streak, Supra, Auditorium 23. Speaker: Auditorium 23, Kimber Kable 8TS, Supra Sword 3.0. AC: manufacturers’ own.

Accessories Sound Anchor stands, Dr. Feickert Analogue Protractor NG.—Herb Reichert

Usually, the reviewer reviews the speaker; this time, it felt as if the speaker were reviewing me.

upset with myself because I couldn’t find a way to really enjoy my listening time while The Clues were in the system.

I think Jim Croft and Lars Erickson should step back and take another, perhaps slightly humbler, look at what

they have accomplished. They have created a moderately priced loudspeaker to a singular, optimized-use model—an ambitious and admirable concept—that will deliver sensational performance to audiophiles who value detail, transparency, and dynamic ease above weight and balanced tone; who are willing to position The Clues precisely as required; and who will take the time to find an amp that makes them play according to their taste.

Did The Clue trounce the KEF LS50? Some among you may think so. I think the little KEF will end up ranking among such classic, time-honored designs as the Quad ESL-57, the Altec 604, and the BBC LS3/5A. Is The Clue “full-range”? I’ll let John Atkinson and his MLSSA system answer that. Is The Clue an “affordable state-of-the-art monitor”? To me, *state of the art* is more a marketing than an engineering term.

What I do know is my own, very specific “use model” for a loudspeaker: one that lets me play one recording after another, one genre of music after another, without anxiety, distraction, or negative thoughts about sound quality. For me, a good loudspeaker is a comfortable coach (with something like vaguely flat in-room response) drawn by a pair of mythical horses (well-designed amplifiers) that can cross rivers, mountains, and deserts with ease and aplomb. A great loudspeaker is one that lets me travel to faraway places and never makes me want to come home. The Clue made me homesick for my little dog and warm slippers. ■



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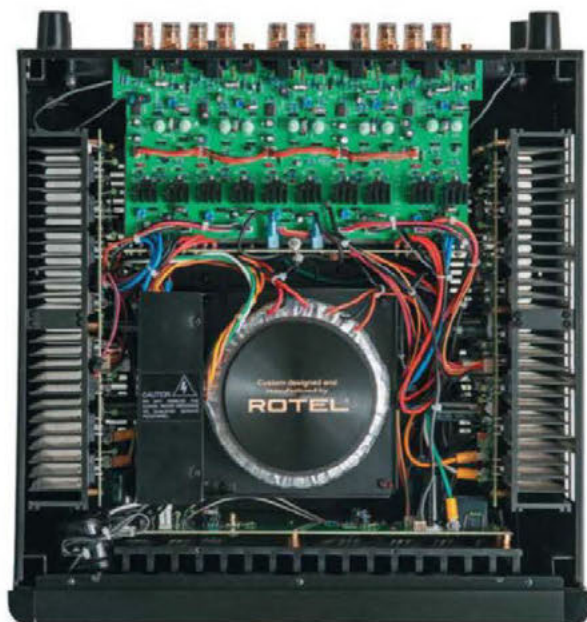


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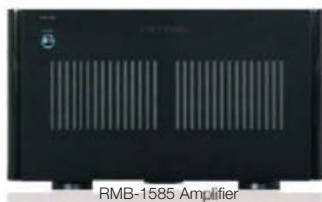
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KALMAN RUBINSON

Monitor Audio Silver 8

LOUDSPEAKER



I remember reading about Monitor Audio speakers as I pored over British audio mags in the 1970s, before the economy was globalized. They were among the many worthy UK brands whose cachet was amplified by their unavailability in the US. This venerable brand has survived and flourished, while many others from the 1970s have disappeared, or become mere labels under the aegis of multinational corporations. The reasons for this success seem to be that Monitor has evolved their metal-cone driver technology, kept the focus on their core market, and contin-

ued to provide high-quality construction and finishes. So I was not surprised to read, at the back of the Silver 8's multi-language owner's manual, that the speaker was "Designed and Engineered in the United Kingdom, made in China."

Description

For all the years I have been aware of Monitor Audio, I had never had a pair of their speakers in either of my systems. Now, however, I had an ulterior motive: I've been shopping for new speakers for my weekend system, in Connecticut.

SPECIFICATIONS

Description Three-way, reflex-loaded, floor-standing loudspeaker. Drive-units (all C-CAM diaphragms): 1" (25mm) dome tweeter, 4" midrange driver, two 6" woofers. Crossover frequencies: 500, 800, 2700Hz. Frequency range: 32Hz–35kHz. Impedance: 4 ohms. Sensitivity: 90dB/W/m. Power handling: 200W. Max-

imum SPL: 116.8dBA/pair. Recommended amplification: 80–200W RMS.

Dimensions (excluding grille, terminals, plinth): 39.8" (1021mm) H by 9.6" (245mm) W by 14" (360mm) D. Weight: 51.3 lbs (23.3kg).

Finishes Black Oak, Rosenut, Walnut (all real wood), High Gloss Black or White

Lacquer.

Serial numbers of units reviewed 700233 A/B.

Price \$2000/pair for Black Oak, Rosenut and Walnut veneer finishes; Black Gloss and White Gloss finishes add \$200/pair. Approximate number of dealers: 500.

Manufacturer Monitor Audio, Ltd., 24 Brook Road, Rayleigh, Essex SS6 7XJ,

England, UK.

Tel: (44) (0)1268-740580.

Fax: (44) (0)1268-740589.

Web: www.monitoraudio.co.uk.

US distributor: Kevro International, 902 McKay Road, Suite 4, Pickering, Ontario L1W 3X8, Canada. Tel: (905) 428-2800.

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RUBICON series: www.dali-rubicon.com

They need to be three-way floorstanders (my wife hates stand-mounted boxes), not require the support of a sub-woofer, be no taller than 40", and have a retail price in the vicinity of \$2000/pair. Monitor's new Silver series includes three floorstanders of similar configuration. The Silver 6 (\$1500/pair) is a 2½-way speaker, and the larger Silver 10 (\$2500/pair) stands just under 42" tall, including its plinth and feet. But the three-way Silver 8, at just under 40" and \$2000/pair, seemed just right. As soon as I read about it, I asked for a pair for review.

The Silver 8 is simply gorgeous, with a fit and finish that are probably impossible to achieve at the price without production in the Far East. My pair were in a perfect High Gloss Black Lacquer on all surfaces, including the bottom, which adds \$200 to the price of a pair. A similarly finished and substantial plinth firmly bolts to the bottom and can receive spikes or soft feet, both adjustable. The four drivers are mounted with single-bolt fixtures from the rear, and are held in place by tension applied with a keyed nut on the back. The generously sized and accessible terminals made it very easy to get a firm grip on the spade lugs with only a modicum of finger pressure. No mounting fixtures mar the beauty of the front panel, and the cloth-covered grille is attached by hidden magnets.

All of the Silver 8's drive-units are made of Monitor's proprietary ceramic-coated aluminum-magnesium (C-CAM) material. The dual 6" woofers have dished diaphragms with a hard skin but are internally damped, and are loaded by separate chambers in a very rigid cabinet of MDF that's braced both across and radially. Each driver has a support brace that extends from its magnet to the rear panel. Each woofer's chamber is vented to the rear via

a tapered port with a textured surface, called by Monitor Audio HiVeII, to smooth the flow of air. The 4" midrange's underhung voice-coil permits long excursions with low distortion. The tweeter has a vented diaphragm and a damped rear chamber. The outputs of the four drivers are integrated by a three-way crossover (500, 800, 2700Hz) with premium-grade polypropylene capacitors and wired with silver-plated, oxygen-free copper. The Silver 8's three-way design was one of the things that attracted me to it in the first place—I hoped for better midrange clarity and dispersion than is usually achieved by the 2.5-way designs that are nearly ubiquitous at or near this price.

Setup

I installed the Silver 8s in my Connecticut system, hooked up as both a stereo pair and as the front L/R speakers of my surround system, driven by a Marantz AV8801 preamplifier-processor and a Bryston 9BST or Rotel RMB-1585 power amp. Audyssey EQ was set to LR-Bypass so that, in stereo or surround, the Silver 8s were not subjected to equalization.

Listening

Talk about hopes realized! From the second the system was powered up, the Silver 8s impressed me. I heard a welcome clarity in the midrange that gave all music a natural presence—precisely why I'd wanted a three-way with a dedicated midrange driver. The Silver 8's 4" cone reproduces the upper midrange, from 2.7kHz down to 800Hz, so the integration of its output with that of the woofers (at unspecified crossover slopes) is critical for proper balance with voices and instruments whose fundamentals fall below 800Hz. I think Monitor has achieved that—I could hear no

MEASUREMENTS

I measured the Monitor Audio Silver 8's farfield frequency response using DRA Labs' MLSSA system and a calibrated DPA 4006 microphone. I used an Earthworks QTC-40 microphone for the nearfield responses, its small, 1/4"-diameter capsule offering no significant barrier to the free flow of air through the speaker's ports. The Silver 8 is specified as having a sensitivity of 90dB/W/m; my estimate of its voltage sensitivity was 88.5dB(B)/2.83V/m,

which is slightly lower. Though the Silver 8's impedance is specified as 4 ohms, its measured impedance magnitude (fig.1, solid trace) remains at or above 5 ohms for the entire audioband other than the region between 100 and 300Hz, where it reaches a minimum value of 3.5 ohms at 165Hz. The electrical phase angle is generally benign, though there is a combination of -34° and 4.5 ohms at 100Hz, a frequency where music can have high energy. A 4 ohm-rated amplifier or receiver will

have no problems driving this speaker to high levels.

A significant discontinuity just below 300Hz in the impedance traces suggests some sort of cabinet-resonance problem at that frequency. I did find a strong resonant mode at 301Hz on the top and rear panels (fig.2), and another strong mode at 410Hz on the side panels, level with the midrange unit. Lower, and level with the woofers, the side panels were relatively inert; as Kalman Rubinson commented that

Stereophile Monitor Audio Silver 8 Impedance (ohms) & Phase (deg) vs Frequency (Hz)

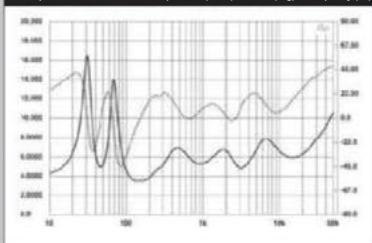


Fig.1 Monitor Audio Silver 8, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

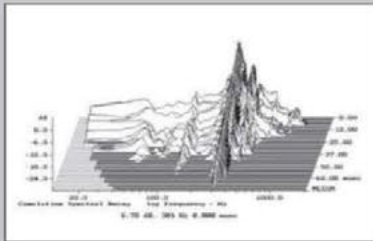


Fig.2 Monitor Audio Silver 8, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of rear panel midway between ports (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

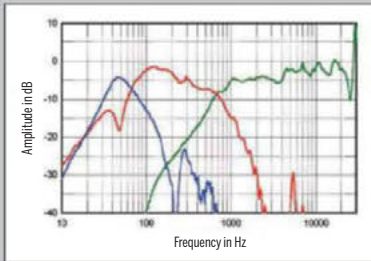


Fig.3 Monitor Audio Silver 8, acoustic crossover on tweeter axis at 50", with nearfield responses of: midrange unit (green), woofers (red), ports (blue), respectively plotted below 500Hz, 350Hz, 650Hz.

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fault with the Silver 8 with voices that span the crossover frequency. My reference for this integration, mezzo-soprano Marianne Beate Kielland in her *Come Away, Death*, with pianist Sergei Osadchuk (free 24-bit/192kHz PCM download from SACD/CD, 2L 2L-064-SACD), had a warmth I had heretofore heard only from my Manhattan system, with its big Bowers & Wilkins 800 Diamond and Bryston Middle T speakers (review underway). This high-resolution recording has always sounded deliciously fresh and sweet, but all of the recent speakers that have passed through my Connecticut system have offered a slighter rendition of Kielland's rich tones. That's not to say that the Silver 8s were artificially enhancing the lower mids—male voices didn't suffer, and didn't sound overripe in any way.

A pair of 6" woofers does not suggest stygian bass, even if Monitor specifies the Silver 8's lower limit as 32Hz, unqualified by any rolloff spec. At low levels, the speaker's low end was in good balance, as suggested above, and the louder I pushed them, the more power and impact the Silver 8s delivered, without boom. Even Gustav Stenz and the Cologne Gürzenich Orchestra's warmly powerful cycle of Mahler symphony recordings was just fine without my having to send in the subs. Try the last movement of Symphony 6 (SACD/CD, Oehms OC-651), with its weighty "hammer blows" and its truly devastating, anguished final chord. I found an abiding source of pleasure in how the Silver 8 was never caught out by the bass information in any recording; my cursory examinations of in-room frequency responses suggested that it was less affected by room modes and placement than are my resident Paradigm Studio/60v3s. John Atkinson's measurements will tell us the real numbers, but I found the Silver 8's bass

remarkably solid and satisfying. I think some of that success was probably due to the critical damping of the drivers in their individual enclosures, which may have made possible the 8's well-controlled bass extension to its reasonable lower limit. Of course, adding a subwoofer or two further endowed the Monitors' sound with prodigious bass, but that was significant with only a minority of recordings.

There's little to say about the Silver 8's treble. Although it was detailed and extended, it was also smooth and untiring. Indeed, as with the best speakers—those costing far more than the Silver 8's \$2000/pair—the high frequencies, almost all overtones, were unobtrusively integral to the music, not distinct from the midrange fundamentals. I greatly appreciated this with recordings of both small and large ensembles. For the former, I listened to the latest release from the Los Angeles Percussion Quartet, *The Year Before Yesterday* (BDA/CD, Sono Luminos DSL-92180). Particularly with percussion pioneer William Kraft's *Fore!*, the Silver 8s provided, from the CD, a precise spatial delineation, as in a good chamber-music performance, coupled with remarkable impact and presence from each instrument. For a large ensemble, I immersed myself in the world of Robert Kyr via his *The Cloud of Unknowing* and *Songs of the Soul*, performed by the wonderful vocal ensemble *Conspirare* with the support of the Victoria Bach Festival Orchestra, under the direction of Craig Hella Johnson (SACD/CD, Harmonia Mundi HMU 807577). What a marvelous way to take flight to a world of beauty from the reality of a rainy day! While the harmonies may be complex, the perception is of effortless flow, even in two channels. One can succumb happily or listen analytically, but either way, one does so with the feeling that nothing

measurements, continued

"male voices . . . didn't sound overripe," it's probable that these resonances measure worse than they sound.

The solid trace in fig.1 indicates that the twin ports are tuned to 48Hz, which is relatively high considering the Silver 8's fairly large cabinet. However, each woofer is loaded with its own chamber and port, and nearfield analysis of the woofer and port outputs reveals that the two bass drivers behave identically below 500Hz, with the top woofer offering a little more output between 500 and 800Hz. The red trace in fig.3 is a composite showing the summed nearfield woofer outputs below 350Hz and their farfield response on the tweeter axis above that frequency. The minimum-motion notch in the woofers' response occurs, as expected, at 48Hz, and the sum of the port outputs (blue trace) peaks broadly between 30 and 80Hz. Though there is a peak in the ports' output in the midrange, this is well down in level. The woofers appear to be crossed over to the midrange unit (green trace) at

around 650Hz (lower than the specified 800Hz), with a steep rolloff above that frequency. Though sharply defined resonant peaks are visible at 5.5kHz and 7kHz, these are well suppressed by the crossover. The tweeter's output appears from fig.3 to be balanced 2-3dB higher than that of the midrange driver, but the sharply defined peak due to its fundamental dome resonance occurs at a commendably high 29kHz.

Fig.4 shows the Silver 8's overall

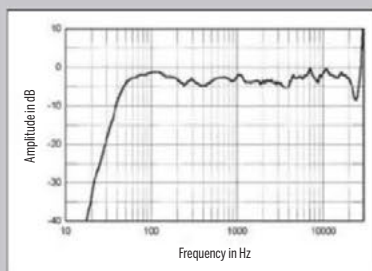


Fig.4 Monitor Audio Silver 8, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with complex sum of nearfield responses plotted below 300Hz.

response on its tweeter axis at 50°, averaged across a 30° horizontal window and spliced at 300Hz to the complex sum of the individual nearfield responses. Other than the slight excess of energy in the tweeter's passband, the response is impressively even and flat. The small rise in the upper bass will be entirely due to the nearfield measurement technique, and the speaker's low frequencies extend to 40Hz, -6dB. KR did describe the speaker's low end as being "in good balance," and wrote that the louder

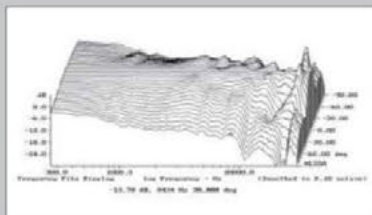


Fig.5 Monitor Audio Silver 8, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90-5° off axis, reference response, differences in response 5-90° off axis.



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Of course, both of these recordings benefit immensely from multichannel playback, but I can't say that listening in stereo via the Silver 8s was anything less than delightful. Their soundstage was deep and, if I wanted to focus on instrument placements instead of the music, there was a wealth of stable detail to appreciate. Soundstages weren't much wider than the space defined by the speakers' outer edges, but this might be the only tiny fly in the Silver 8's ointment. If so, it's one I'd gladly accept in return for the speakers' well-defined stereo presentation and almost ideal tonal balance.

All of the above notes reflect my current listening interests. However, the Monitor Silver 8s were also great with more wide-ranging music. I popped in Sara K.'s *Hell or High Water* (SACD/CD, Stockfisch SFR 357.4039.2), B.B. King and Eric Clapton's *Riding with the King* (DVD-A, Duck/Reprise 45024-2), and Oscar Peterson Meets Roy Hargrove and Ralph Moore (CD, Telarc CD-83399). My, did the Silver 8s deliver. I pulled out Clapton's *Crossroads Guitar Festival 2010* (2 BDs, Rhino 525668) and played through both discs, randomly switching between stereo and multichannel. Regardless of track or changes in players, it all sounded more alive and engaging than I remembered.

Comparisons

Sure, much more exalted and expensive designs—perhaps even its own sibling, the Silver 10—can produce greater power, bass extension, and ultimate resolution. But compared with my admittedly older and discontinued Paradigm Studio/60v3s (\$1699/pair when last available¹), the Silver 8s were strikingly cleaner in the lower midrange, more open in the upper midrange, and had a subtler treble—though the Studio 60s do have more heft at the bottom. The pricier and

ASSOCIATED EQUIPMENT

Digital Sources Oppo BDP-103 universal BD player, Mac mini running JRiver Music Center, Audirvana Plus.

Preamplifiers Marantz AV8801, NAD M17.

Power Amplifiers Bryston 9BST, Rotel RMB-1585.

Loudspeakers B&W 800 Diamond, Bryston Middle T, Paradigm Studio/60v3.

Cables Interconnect: Kubala-Sosna Anticipation (RCA) & Fascination (XLR). Speaker: AudioQuest Vodka (HDMI), Kubala-Sosna Anticipation & Fascination. AC: Kubala-Sosna Emotion.

Accessories APC S-15 power conditioner.—**Kalman Rubinson**

even more beautiful Sonus Faber Venere 2.5s (\$2498/pair²) had an equally spacious upper end, but I give the palm to the Silver 8s for their midbass smoothness. The KEF Q900s (\$1598.98/pair³) also give the Silver 8s a run for the money at the upper end, but have a notably lighter balance and are not so handsomely finished.

Conclusions

This review is so brief because I'm at a loss to point to any way in which, for its size and price, the Monitor Audio Silver 8 disappointed. I've been looking at speakers for \$3000/pair or less for a while, and have not heard any that I would prefer to the Monitor Audio Silver 8. ■

1 See www.stereophile.com/floorloudspeakers/1204paradigm/index.html.

2 See www.stereophile.com/content/sonus-faber-venere-25-loudspeaker.

3 See www.stereophile.com/content/kef-q900-loudspeaker.

measurements, continued

he pushed the twin 6" woofers, "the more power and impact the Silver 8s delivered, without boom."

The Silver 8's plot of lateral dispersion, normalized to the tweeter-axis response (fig.5), has a textbook appearance below 8kHz, with smooth, even contour lines. The speaker becomes more directional above that frequency, which will tend to compensate for the excess on-axis energy in the same region. In the vertical plane (fig.6), the smooth tweeter-axis response is

maintained over a wide angle of $\pm 10^\circ$. Only at 15° above the tweeter axis does a suckout appear at the upper crossover frequency, 3.1kHz (rather than the specified 2.7kHz).

The Silver 8's step response on its tweeter axis (fig.7) shows that the tweeter and midrange unit are connected in inverted acoustic polarity, the woofers in positive polarity. More important than the polarities (see "Letters," November 2014, p.11) is the

fact that the decay of each unit's step smoothly blends with the start of the decay of the next step lower in frequency, which suggests optimal crossover design. The cumulative spectral-decay plot on the tweeter axis (fig.8) is superbly clean other than a small degree of delayed energy at 7kHz, this most likely from the metal-cone woofers.

The Monitor Audio Silver 8 offers superb measured performance at a very competitive price. I am not surprised that KR liked this speaker as much as he did.—**John Atkinson**

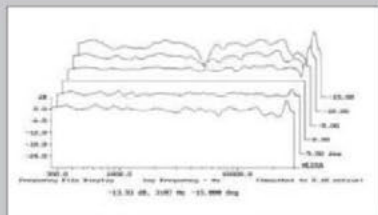


Fig.6 Monitor Audio Silver 8, vertical response family at 50° , normalized to response on tweeter axis, from back to front: differences in response 15° – 5° above axis, reference response, differences in response 5° – 10° below axis.

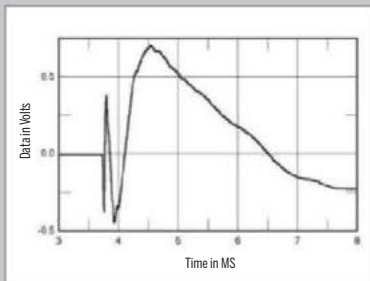


Fig.7 Monitor Audio Silver 8, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

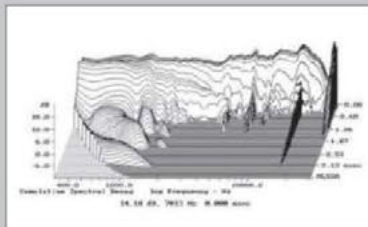


Fig.8 Monitor Audio Silver 8, cumulative spectral-decay plot on tweeter axis at 50° (0.15ms risetime).

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Wharfedale Jade 3

LOUDSPEAKER

The \$1500/pair price point for loudspeakers is now very hot. Many manufacturers offer interesting models at or near this price, which gives the most creative designers an opportunity to show off: they can come up with interesting speakers that attempt to deliver a level of performance an order of magnitude beyond their entry-level wares by trickling down technology from their costlier floorstanding models. For the buyer, a \$1500/pair speaker is a great way to start building a complete system for \$4000–\$5000 that can deliver extremely high sound quality for the dollar.

Although I've reviewed three excellent Wharfedale models—the Diamonds 9.1, 10.1, and 10.7—the Diamond line comprises the company's lowest-priced models. Wanting to hear what quality of sound Wharfedale could deliver for \$1499/pair, I requested a pair of Jade 3s.¹

Design

The Jade 3 is a three-way bookshelf speaker with a 1" (25mm) aluminum-dome tweeter, a 3" (76mm) aluminum-pulp composite-cone midrange unit, and a 6.5" (150mm) Acufibre-cone woofer. The drivers are mounted in a sleek, sealed cabinet with a horseshow cross section when viewed from above. My review samples' Vintage Cherry finish was gorgeous; the Jade 3 is also available in Black Oak, Rosewood, or, for \$300 more per pair, Piano Black.

Wharfedale designer Peter Comeau explained to me his philosophy of cabinet construction and driver selection. He doesn't believe in bass-reflex bookshelf speakers. Although such systems have the benefits of high sensitivity and powerful bass, they also create a resonant system with



Wharfedale designer Peter Comeau doesn't believe in bass-reflex bookshelf speakers.

a high Q factor, which Comeau feels imposes a ringing nature on the musical waveform. This can affect bass transients, curtail deep-bass extension, and make the best sound quality more dependent on the speakers' precise positions in the room.

For the Jade 3, Comeau designed a sealed box with a fundamental bass resonance of 44Hz, below which the output falls at 12dB/octave. With typical room gain, he claims, this should provide useful bass extension down to around 30Hz.

Nor does Comeau believe in making speakers cabinets of medium-density fiberboard, feeling that MDF has a

¹ I reviewed these Wharfedale speakers in these issues: Diamond 9.1 (\$350/pair), November 2005; Diamond 10.1 (\$349/pair), February, April, October 2011, and October 2013; Diamond 10.7 (\$1299/pair), October 2013. Robert Deutsch reviewed the Jade 7 (\$4199/pair) in May 2013. (All prices those at the time of the original review.)

SPECIFICATIONS

Description Three-way, sealed-box bookshelf speaker. Drive-units: 1" aluminum-dome tweeter, 3" aluminum-pulp composite midrange cone, 7" Acufibre-cone woofer. Crossover frequencies: 350Hz, 2.8kHz. Frequency response: 45Hz–24kHz, ± 3 dB. Sensitivity: 86dB/2.83V/m. Nominal

impedance: 6 ohms. Recommended amplification: 30–150W.

Dimensions 16.9" (433mm) H by 9.6" (246mm) W by 15.6" (400mm) D. Weight: 26 lbs (11.8kg).

Finishes Black Oak, Rosewood, Vintage Cherry; Piano Black, add \$300/pair
Serial number of units

reviewed WHO47129BBC0102 (both).

Price \$1499/pair; stands, \$599/pair. Approximate number of dealers: 50.

Manufacturer Wharfedale, IAG Group Ltd., IAG House, 13/14 Glebe Road, St. Peters Industrial Estate, Huntingdon, Cambridgeshire PE29 7DL, England, UK.

Tel: (44) (0)1480-447700.
Fax: (44) (0)1480-43176.
Web: www.wharfedale.co.uk.
US distributor: Sound Solutions, LLC, 1811 W. Bryn Mawr Avenue, Chicago, IL 60660.
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resonant quality that can result in a “honky” sound and peaks in the midrange. He prefers particleboard and plywood; in the Jade 3, he combines these wood types in a multilayer construction called Crystallam, designed to minimize midrange resonances.

The cones of the Jade 3's bass and midrange drive-units are made of Acufibre, a proprietary material that combines glass and carbon fibers in a self-damping woven matrix. A thin layer of aluminum is added to the front of the midrange cone to improve its radiation pattern. The dome tweeter has an elastomer mount to isolate it from cabinet vibrations.

I began by setting the Jade 3s atop my Celestion Si stands, but I didn't like how the speakers and stands mated. The Celestions' small, rectangular top plate didn't seem the ideal mechanical coupling for the Jade 3s' large, horseshoe-shaped bottom. The speakers wobbled, and I was concerned that one of my children or dogs might too easily topple them. So I requested a pair of Wharfedale's Jade Stands (\$599/pair), which have a wide column that can accommodate wires, and two side columns. The columns sit on a heavy base of wood, and are capped by a wooden top plate. The Jade 3s worked very well on these stands, which, with their rugged construction and horseshoe top and bottom plates, made the combo an attractive package, though the potential price is now \$2100, not \$1500.

Sound

It's difficult to review a speaker that reveals no flaws or shortcomings over a wide range of recordings, and the Wharfedale Jade 3 was just such a speaker. With every recording I tried, I could find nothing to criticize in the areas of tonal balance, detail resolution, soundstaging, transient articulation, or dynamic range. Normally, in a situation such as this, I would find an area or two where the speaker outperformed competitors in its price range. For this review,

I've done something a bit different: I found three areas in which the Jade 3 performed better than anything I'd heard at its price or size. Each area is worthy of detailed discussion, and in each, the Jade 3's performance can be summed up in one word: *remarkable*.

REMARKABLE #1—BASS: In the midbass and upper bass—eg, a double bass in a good jazz recording—instruments sounded forceful and natural, with very prominent warmth. But that warmth never manifested itself as a midbass *emphasis*; and while the midbass had a relaxed quality, it was still clean, uncolored, and lightning fast. When I cranked up rock recordings close to concert level, the Jade 3s were able to kick me in the chest with transients with no hint of strain or compression. Asked to perform challenging tasks of bass reproduction, the Wharfedales never behaved as if they were working hard, and when reproducing deep bass, there was never a hint that they'd have a problem going even deeper if they had to.

Eberhard Weber's double bass on his *Endless Days* (CD, ECM 1748) sounded woody and uncolored, and each note he plucked bloomed on a bed of air. When keyboardist Rainer Brüninghaus produced a backwash of low-register synthesizer sounds, the combination of his and Weber's instruments produced low-frequency drama, air, and ease. The *Spaceship* movement of Philip Glass's *Einstein on the Beach*, with Michael Riesman leading the Philip Glass Ensemble (CD, Nonesuch 79323-2), includes some densely orchestrated, rapid-fire bass passages for multiple keyboards; through the Jade 3, these passages were reproduced effortlessly and with perfect clarity, but without excessive warmth and with no trace of overhang.

REMARKABLE #2—DYNAMICS: I've heard many speakers than can produce the entire dynamic range from *ppp* to *fff* in a linear manner, but occasionally I've found a speaker that is scarily realistic at the lower end of the dynamic spectrum

MEASUREMENTS

I used DRA Labs' MLSSA system and a calibrated DPA 4006 microphone to measure the Wharfedale Jade 3's frequency response in the farfield, and an Earthworks QTC-40 for the nearfield response of its woofer. My estimate of the Jade 3's voltage sensitivity was 83.5dB(B)/2.83V/m, which is significantly lower than the specified 86dB/W/m. The Wharfedale is speci-

fied as a 6 ohm design. Its impedance remains at or below 4 ohms for the entire midrange (fig.1, solid trace), with a minimum magnitude of 3.2 ohms at 700Hz. The magnitude does remain above 6 ohms in the bass and treble, and other than a combination of -50° and 6 ohms at 58Hz, the electrical phase angle is generally benign.

Other than at 20kHz, where a small wrinkle is due to the tweeter's primary

dome resonance, the impedance traces are free from the discontinuities that would imply the presence of enclosure vibrational resonances. When I investigated the cabinet walls' behavior with a plastic-tape accelerometer, I found only a low-Q mode just above 500Hz at the center of both curved sidewalls (fig.2), and another at 700Hz on the top panel. I can confidently state that these modes are too high in frequency and too low in level to introduce any coloration.

The single impedance peak in the bass, reaching 17.2 ohms at 40Hz, suggests that this is the tuning frequency of the sealed enclosure, and the woofer's nearfield output is indeed down by 6dB at this frequency (fig.3, red trace). The woofer is crossed over to the midrange unit (blue trace) close to the specified 350Hz. While some of the woofer's broad peak in the upper bass in this graph will be due to the

Stereophile Wharfedale Jade 3 Impedance (ohms) & Phase (deg) vs Frequency (Hz)

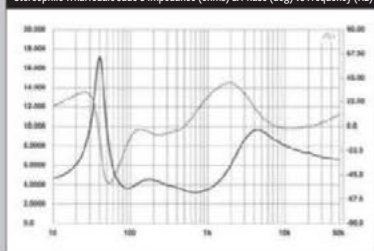


Fig.1 Wharfedale Jade 3, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

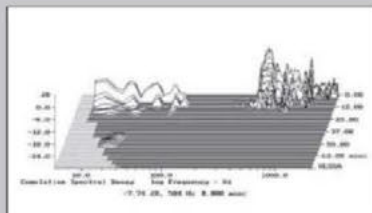


Fig.2 Wharfedale Jade 3, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of side panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

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or is capable of earthshaking blasts at the opposite extreme. The Jade 3 did both. Susie Ibarra's solos on a broad range of percussion instruments, on her *Radiance* (CD, Hopscotch HOP 2), explore the softer end of the dynamic spectrum. With many of these tracks, the Jade produced the *pppp*-to-*pp* range with delicacy, air, and speed, and Ibarra's barely audible whispers were crystal clear and captivating. Then I cranked up the volume with Lady Gaga's *The Fame Monster* (CD, Streamline B0013535-72). The bass-synth blasts and transients literally shook my large listening room, but with no sense of strain or compression. Most of the tracks on John Zorn's *Music for Children* (CD, Tzadik 7821) are for a small acoustic jazz ensemble, but Zorn arranged "This Way Out" for his rock band, with added jazz instrumentation. Influenced by Carl Stallings, who composed many of the soundtracks for classic Warner Bros. cartoons, this piece is a series of completely unrelated short musical excerpts, with Zorn ricocheting from one to the next without transition. The Wharfedales were able to instantly leap from the *fff* rock blasts of one section to the mellow, laid-back passage that followed, with no transient smear or overhang or sense of strain, and with all articulation intact.

REMARKABLE #3—HIGH-FREQUENCY REPRODUCTION:

This is my favorite strength of the Wharfedale. It achieved a level of high-frequency realism that I hadn't heard from any speaker costing less than \$10,000/pair. The Jade 3's highs were extended, detailed, clean, uncolored, and very revealing of every nuance. Somewhat paradoxically, although it reproduced all transients with lightning-fast clarity, there was no trace of sharpness or an etched quality, and all high frequencies sounded rather relaxed. Sounding relaxed without slightly sluggish, behind-the-beat transients is very rare. The result: When I put on a well-recorded jazz album—just about anything from ECM—the Jade 3's reproduction of the cymbals and snare almost fooled me into thinking the drummer was playing in my room.

I felt that way when listening Art Blakey's drum solos on his *The Big Beat* (CD, Blue Note CDP 7 46400). There was a sense of ease in all of his solos, but despite the relaxed quality of the Wharfedales' sound, they revealed every detail. In "Fils des Étoiles," from the John Zorn recording, there's a duet between Anthony Coleman on celeste and Cyro Baptista on percussion. The delicate, crystal-clear, crisp, airy highs had startling realism. In *Building*, another movement of *Einstein on the Beach*, massed strings comprise the prominent instrumental texture. Through the Jade 3s, the strings' sound was silky and extended into the topmost octaves, but was always fast and clean.

One caveat about the Jade 3: High frequencies were ruthlessly revealed, and easily delineated differences among recordings of varying sound quality. I played one of my favorite Miles Davis recordings, *Vol.2* (CD, Blue Note CDP 8 1502 2), but I couldn't enjoy this early CD reissue through the Wharfedales. There was a grayish scrim over the highs that I hadn't heard with other speakers—highs that sounded far less natural through the Jade 3s than the highs on the Tord Gustavsen Trio's *Changing Places* (CD, ECM 1834). With that recording, the piano's lower-middle register really showed off the Jade 3's warm, natural, transparent lower midrange—Gustavsen's playing sounded liquid, linear, and silky.

That got my piano jones working. I cued up Robert Silverman's recording of Beethoven's 32 Piano Sonatas (CD, OrpheumMasters KSP830). In high school, I spent several years woodshedding the early Beethoven sonatas, so for this session I moved in the opposite direction, to Sonata 30, Op.109. Through the Jade 3s, Silverman's arpeggios rushed over me like delicate waves of rolling romantic liquidity. Cellos also leapt through the Wharfedales' magically transparent lower-midrange window. With the first volume of János Starker's traversal of J.S. Bach's Suites for Solo Cello (CD, Mercury Living Presence 432 757-2), I could hear the rosin on his bow, and it seemed that separate, airy,

measurements, continued

nearfield measurement technique, it does appear that the low-frequency alignment is on the underdamped side, presumably to give the impression that the speaker has greater bass extension than it actually does. It's fascinating, therefore, to compare the

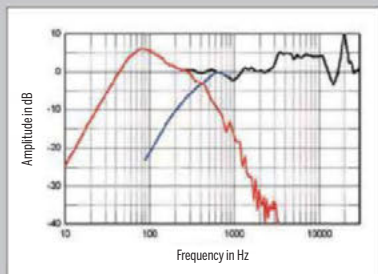


Fig.3 Wharfedale Jade 3, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with nearfield responses of midrange unit (blue) and woofer (red) and their complex sum, respectively plotted below 800Hz, 3kHz, 300Hz.

Jade 3's frequency response with that of the floorstanding Jade 7 (\$4200/pair), which Robert Deutsch reviewed in May 2013 and which uses a very similar HF/MF array (see fig.4 at www.stereophile.com/content/wharfedale-jade-7-loudspeaker-measurements). While the Jade 7's overall response is impressively flat, the Jade 3's response is plateaued up almost 5dB in the

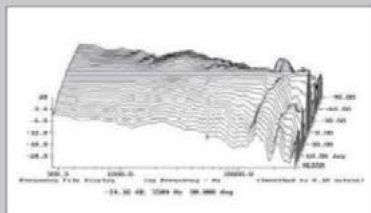


Fig.4 Wharfedale Jade 3, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90°-5° off axis, reference response, differences in response 5°-90° off axis.

region covered by the tweeter. Bob Reina didn't remark on excess energy in this region, instead writing that "The Jade 3's highs were extended, detailed, clean, uncolored, and very revealing of every nuance," though he did add that "high frequencies were ruthlessly revealed." I suspect that this treble balance was chosen to balance the slightly underdamped low frequencies.

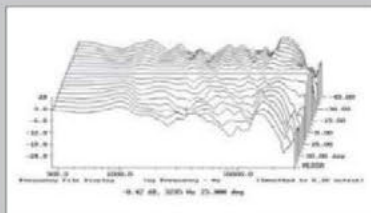


Fig.5 Wharfedale Jade 3, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45°-5° above axis, reference response, differences in response 5°-45° below axis.



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holographic waveforms emanated from the cello's strings and body. Even George Harrison's lower-register guitar solo in "Something," from the Beatles' *Abbey Road* (CD, Apple 946 382468 2), was mellow, rich, and perfectly linear, with easily discernible dynamics within the range of *ppp* to *p*.

Abbey Road also showcased how well the Wharfedale reproduced the rhythmic pacing of rock recordings. My head bobbed to Ringo's chugging, coherent drumming throughout "Come Together." And with "Octopus's Garden," I couldn't sit still—I found myself two-stepping and pacing around the room.

The one orchestral recording that captured all of the Jade 3's strengths was Antal Doráti and the London Symphony Orchestra's of Stravinsky's *The Firebird* (CD, Mercury Living Presence 234 012-2). The Wharfedales captured the signature Living Presence tonal balance better than any speaker I've heard. Despite their slightly forward and whitish upper midrange and lower highs, the Jade 3's stunning replication of the sound of the recording venue nevertheless made this recording sound breathtakingly close to a live performance. The upper-register piccolo passages were extended and airy, and the xylophone passages were spotlighted, the instrument suspended on its own bed of air and within its own dynamic envelope. And the highly modulated *ff* passages had an effortless sense of drama without any trace of compression or hardness.

Comparisons

I compared the Wharfedale Jade 3 (\$1499/pair) with Dynaudio's Excite X14 (\$1500/pair) and the Epos Elan 10 (\$1000/pair when last offered).

The Dynaudio Excite X14's resolution of inner midrange detail was the equal of the Wharfedale's, as was its articulation of low-level dynamics. High frequencies, however, were much more open and extended through the Wharfedale. Although the X14's mid- and upper bass were as clean and clear as the Jade 3's, the Wharfedale's bass

ASSOCIATED EQUIPMENT

Analog Sources Rega Research Planar 3, VPI TNT IV turntables; Immedia, Syrinx PU-3 tonearms; Clearaudio Virtuoso Wood, Koetsu Urushi cartridges.

Digital Sources Creek Destiny, Lector CDP-7T CD players.

Preamplification Vendetta Research SCP-2D phono stage, Audio Valve Eclipse line stage.

Power Amplifier Audio Research Reference 75.

Loudspeakers Dynaudio Excite X14, Epos Elan 10.

Cables Interconnect (all MIT): Magnum M3, MI-350 CV-Twin Terminator, MI-330SG Terminator. Speaker: Accent Speaker Technology Blue Thunder.

Accessories Various by ASC, Bright Star, Celestion, Echo Busters, Salamander Designs, Simply Physics, Sound Anchor, VPI.—Robert J. Reina

extension seemed deeper, and its high-level dynamics were superior.

The Epos Elan 10's excellent transient articulation was the equal of the Wharfedale's. Highs were as extended through the Elan 10 as through the Jade 3, but were not as delicate or as clean. The clarity of the Epos's mid- and upper bass was as good as the Wharfedale's, although the Jade 3's bass seemed to extend much deeper. The Elan 10's articulation at both the soft and loud ends of the dynamic spectrum, however, was not as good as the Wharfedale's.

Payoff

Wharfedale's flawless—and *remarkable*—Jade 3 punches way beyond its price. In fact, I'd recommend that anyone with a speaker budget of up to \$5000/pair consider the Jade 3—you can use your savings to buy a better turntable or electronics, or, better still, spend it on some of the super reissue vinyl that's flooding the market. ■

measurements, continued

As in the Jade 7, the Jade 3 tweeter's primary dome resonance results in a large peak at 20kHz. While this won't bother *alte kockers* like BJR and me, the frequency is a little on the low side for young listeners.

The Jade 3's horizontal dispersion was commendably wide and even (fig.4), with the treble output

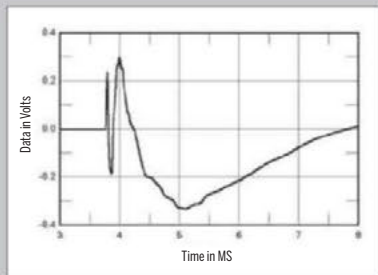


Fig.6 Wharfedale Jade 3, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

maintained to 15° off axis. The on-axis suckout between 12 and 18kHz fills in to the speaker's sides, which in all but very large rooms will add sufficient top-octave air to the speaker's balance. Vertically (fig.5), the Jade's response is maintained over a wide ($\pm 15^\circ$) window, though the appearance of a suckout just above 3kHz at 25° below the tweeter axis suggests that low stands will work better than high ones.

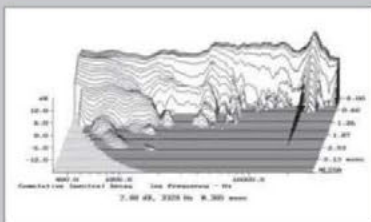


Fig.7 Wharfedale Jade 3, cumulative spectral-decay plot on tweeter axis at 50° (0.15ms risetime).

Looking at the Jade 3's behavior in the time domain, its step response on the tweeter axis (fig.6) reveals that the tweeter and midrange unit are both connected in positive acoustic polarity, the woofer in negative polarity, which I confirmed by examining the outputs of the individual units (not shown). Significantly, the decay of each unit's step smoothly blends with the start of the decay of the next step lower in frequency, which suggests optimal crossover design. The cumulative spectral-decay plot on the tweeter axis (fig.7) is superbly clean, other than the expected resonant ridge at 20kHz and a hint of delayed energy at 3.3kHz.

Like the Jade 7, Wharfedale's Jade 3 offers excellent measured performance. As BJR concluded, this Peter Comeau design "punches way beyond its price." —John Atkinson

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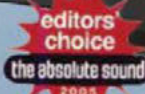
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LARRY GREENHILL

SV Sound SB13-Ultra

POWERED SUBWOOFER

As an audiophile, I've come to associate the size, weight, and price of a subwoofer as quick'n'dirty indicators of its quality. The subwoofers that have worked best in my large listening room—the Velodyne ULD-18 and DD-18+, Muse Model 18, REL Studio III, JL Audio Fathom f113, and Revel Sub30—each weigh more than 130 lbs and cost more than \$2500. With some of my reference recordings, all of them have achieved what Robert Harley described in the April 1991 issue of *Stereophile* as the goals of a quality subwoofer: “seamless integration, quickness, no bloat, and unbelievable bass extension.” Yet are back-busting weight, unmanageable size, and nosebleed cost essential to achieving those goals?

SV Sound doesn't think so. Their sealed, self-powered SB13-Ultra subwoofer weighs less than 100 lbs, yet boasts a 3600W peak amplifier. SVS sells this model directly via their website and offers buyers a 45-day, in-home trial period, with money returned in full if the sub doesn't work out. SVS's website has chat features, and provides Merlin, a subwoofer-setup wizard. Type in the name of your main speakers, and Merlin recommends the “SVS subwoofer that provides the best match, including the exact settings needed to optimize the sub's sound.”

Intrigued by SVS's approach, I jumped at an offer by Nicholas Brown, SVS's PR representative, to review the SB13-Ultra.

The SB13-Ultra ...

... is an impressively compact, sealed-box subwoofer. A 17.4" cube, it's 3.6" shorter, 3.1" narrower, 10.4" shallower, 63 lbs lighter, and \$400 less expensive than the ported version,



the PB13-Ultra, which I reviewed in the August 2008 issue.¹

Measurements show the ported PB13-Ultra has more extended deep bass response, but SVS's Mark Mason noted

¹ See www.stereophile.com/subwoofers/808svs/index.html.

SPECIFICATIONS

Description Front-firing, sealed-box, powered subwoofer. Drive-unit: 13.5" Ro-hacell composite cone with 3", bifilar-wound aluminum voice-coil and underhung motor structure. Inputs: balanced (XLR) and unbalanced (RCA) for two channels, trigger. Outputs: balanced (XLR) for each channel to additional subwoofer. Controls: input level (High/Low); Power; Integrated Function Controller (IFC) knob with 2-line display to control

volume level, high- and low-pass filter (Enable, Slope, Frequency), phase, high-pass delay (milliseconds), room gain compensation (Enable, 40, 31, or 25Hz, 6 or 12dB/octave cut), and parametric EQ functions (Frequency, Slope). Low- and high-pass filters: 31, 40, 50, 63, 80, 100, 125Hz, 12 or 24dB/octave slopes. Amplifier: 1000W RMS (3600W peak). Input voltage sensitivity: N/A. Input impedance: 10k ohms balanced (XLR), unbalanced

(RCA). Frequency response: 20–460Hz, ± 3 dB. Acoustic output (CEA 2010): 111.4dB SPL at 31Hz in 2pi space at 1m, <10% THD. Accessories: power cord, grille, quick-start guide, user manual.

Dimensions 17.4" (445mm) W/H/D. Weight: 92 lbs (41.8kg).

Finishes Black Oak real-wood veneer, Piano Black.

Serial number of unit reviewed SB13U03131008E. Price \$1599.99. Approximate number of dealers: 5 retail

partners, 3 e-commerce partners (online resellers), 24 custom installers, direct online sales. Warranty: 5 years, unconditional, parts/defects, fully transferable; 45-day in-home trial period, no questions asked; lifetime customer & technical support.

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that the sealed SB13-Ultra can take better advantage of room reinforcement of the very low frequencies; the ported version must use a steep subsonic filter to avoid overdriving its woofer below the port tuning frequency.

The SB13-Ultra has a single, front-firing 13.5" drive-unit. A custom-tooled, die-cast aluminum basket that holds the light, rigid Rohacell-composite cone with dual linear-roll spiders and a stitched, parabolic surround with large excursion. The motor, optimized with finite element analysis (FEA), consists of a bifilar-wound, flat-wire, eight-layer aluminum voice coil 3" in diameter, and a polyimide-impregnated fiberglass former with a custom gap-extension plate to increase its linear stroke, for lower distortion. The magnetic field is created by dual Genox 8H/Y-35 ferrite magnets, and the pole vent is oversized, for greater cooling. All of these components are configured in an "overhung" design that extends the voice-coil past the gap on either side of the pole-piece, to optimize its efficiency in a midsize sealed alignment. When played without limiters, filters, or equalization, the driver's low inductance extends its frequency response to 300Hz. Its manual states that it uses a "highly advanced and sophisticated Digital Signal Processor (DSP) ... to achieve the target frequency response," and "features a frequency-dependent limiter/compressor algorithm with adjustable attack/release and compression parameters."

The SB13-Ultra is powered by a built-in Sledge STA-1000D class-D amplifier with an output of 1000W RMS (3600W peak dynamic). Featuring MOSFET output devices and a switch-mode power supply, the Sledge is smaller, more powerful, and more efficient than the 750W Switched Hybrid (class-A/B, class-D) amp used in the PB13-Ultra. Autostart and Green standby modes switch the amp on quickly when a signal appears at the input terminals.

Mark Mason told me that, using the CEA 2010 standard 31Hz signal in a 2pi environment with a microphone placed at 2m, at sound-pressure levels (SPLs) with less than 10% total harmonic distortion (THD), the SB13-Ultra's maximum peak acoustic output was 111.4dB, as compared with the 118.9dB claimed for the PB13-Ultra.

Simplified Controls

While the SB13-Ultra doesn't come with a remote control, the user interface consists of a small, rear-panel LCD screen and a single control knob, which SVS calls the Integrated Function Controller (IFC). Turning the knob scrolls through eight setup and control functions, each in turn displayed on the LCD. Push the IFC once to select a function, then turn it to scroll through the submenus. Quickly push it twice (double-clicked) to return to the top-level menu. The submenus include: multiple high- and low-pass crossover corner-frequency settings between 31 and 125Hz, plus two different filter slopes (12 or 24dB/octave); phase adjustable from 0° to 180° in increments of 15°; high-pass delay continuously variable from 1 to 10 milliseconds, to align in time the outputs of the satellite speakers and sub; three room-compensation filters (40Hz for rooms of less than 1400 cubic feet, 31Hz for rooms of 1400–2400ft³, and 25Hz for rooms greater than 2400ft³ (6 or 12dB/octave); two parametric equalizer (PEQ) bands offering 13 different center frequencies between 31 and 125Hz; and nine different Q values, from 2.0 to 14.4, for reducing the largest and

widest room-mode peaks.

The IFC unclutters the SB13-Ultra's rear panel, leaving only: the unbalanced (RCA) and balanced (XLR) inputs and outputs for the right and left channels; a switch for selecting line or high voltage level; a power switch; and an IEC jack for the detachable power cord.

Room, Setup, Measurement

I've used the same listening room for over 20 years. Measuring 25' long by 13' wide by 12' high, it encloses a volume of 3900 cubic feet. The left wall has a large bay window covered by Hunter Douglas fabric shades. Under the solid-oak floor is an unfinished basement. Two area rugs cover most of the floor, including the space between the listening chair and my Quad ESL-989 speakers. Although large, the room's sparse furnishings allow these small electrostatic panels to produce peaks of 90dB SPL at my listening chair. Through an 8' by 4' doorway, the rear of the room opens into a 25' by 15' kitchen.

The very first subwoofer I reviewed using this room was Velodyne's ULD-18, for the October 1989 issue.² Accompanying a pair of Quad ESL-63 electrostatics, the ULD-18 did best when placed in a corner, and I used the same positions for this review. My Quad ESL-989s stood 6' 8" apart at their inner edges, the left speaker 18" from the left wall, the right speaker 18" from the built-in wall unit on the right, and both of them 5' 5" from the front wall. The SB13-Ultra was in a front corner, 3' behind the right-channel Quad. My listening chair was 7' 8" from the Quads' front baffles, and 10' 8" from the front of the SB13-Ultra.

Setting up, calibrating, and integrating an SB13-Ultra into an audio system is well described in the clearly written, 34-page manual, which recommends that the sub's room response be optimized either a RadioShack Sound Level Meter and Microsoft Excel, or the *Avia II: Guide to Home Theater* test DVD (Ovation B19485, \$44).

Because I didn't have a A/V receiver through which to play *Avia II*, I used my Studio Six iTestMic,³ a professional-grade test and measurement microphone for the iPhone 4 and iPad. The mike plugs directly into the iPhone's 30-pin connector, and auto-calibrates while drawing very little power from the phone. It's far more precise than the iPhone's own mike for accurately testing and setting up subwoofers, as well as for measuring noise levels, and sound levels up to 120dB. Studio Six's AudioTools app runs the iTestMic, stores the data on the iPhone, and analyzes and graphs its measurements. For test tones, I played, on my Bryston BCD-1 CD player, a digital file of uncorrelated pink noise supplied by Kevin Voecks, of Revel speakers.

First, I ran the preamplifier output cables directly to my Theta Digital Prometheus monoblocks, to run the Quads full range. Using AudioTools' Real Time Analyzer (RTA),

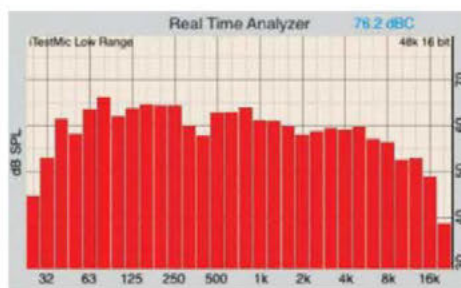


Fig.1
Quad ESL989s,
1/3-octave
response in
LG's listening
room (5dB/
vertical div.).

2 See www.stereophile.com/subwoofers/velodyne_uld-18_amp_uld-15_subwoofers/index.html.

3 See www.studiosixdigital.com/itestmic/itestmic.html.



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their in-room frequency response measured 25Hz–20kHz (fig.1). This graph showed room-mode peaks at 80 and 40Hz, but the response fell off below 40Hz by 15dB at 25Hz.

I disconnected the Quads, attached the preamplifier's output cables to the SVS's inputs, and set the sub's output playing pink noise by turning the IFC knob until AudioTools' SPL module registered 75dB at my listening chair. I then ran balanced interconnects from the sub's high-pass outputs to the Theta amplifiers, and set the high- and low-pass filter corner frequencies to the recommended 63Hz with 24dB/octave slopes. I turned the Quads back on and adjusted the sub's output to match the Quads' acoustic output until the iTestMic RTA histogram bars were level at 100 and 40Hz. That completed the initial calibration and adjustment of the system.

For final tuning, I played Stevie Nicks's smoky rendition of "Silver Springs," from Fleetwood Mac's *The Dance* (CD, Reprise 46702-2). Surprisingly, her voice was thicker, with a chestier timbre, than when played through the Quads alone. Resetting the crossover-filter corner frequencies to 40Hz didn't help.

I turned to SVS's Merlin. When the setup advisor asked for my satellite speakers, I typed in "Quad ESL-989." It recommended running the Quads full range and setting the SB13-Ultra's low-pass corner frequency to 40Hz, 24dB/octave.

Voilà! Nicks's voice lost the coloration, and sounded more pleasing and clear, with more air around it, while John McVie's bass line in "Silver Springs" sounded fast, driving, clean, and musical. Listening to Lindsey Buckingham's "Go Your Own Way," also from *The Dance*, revealed Mick Fleetwood's driving kick drum delivering plenty of what J. Gordon Holt used to call "jump factor." Practicing more restraint with the volume control than I really wanted to, I reduced the number of times the Quads' protection circuits shut them down, triggered by deep-bass climaxes.

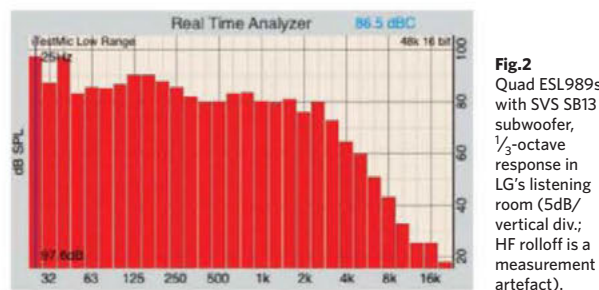


Fig.2
Quad ESL989s
with SVS SB13
subwoofer,
1/3-octave
response in
LG's listening
room (5dB/
vertical div;
HF rolloff is a
measurement
artefact).

I again measured the room response with RTA, this time with the subwoofer playing. The graph looked very different from before: almost flat between 25Hz and 1kHz (fig.2).

Backing off the system's volume control a bit more, I sat down to listen to the SB13-Ultra without its curved metal grille, and with the Quads running full range. I played the lowest-frequency tracks of the half-step-spaced chromatic scale on *Editor's Choice* (CD, Stereophile STPH016-2). All tones were sharply defined and clearly heard, as were the 40 and 31Hz 1/3-octave warble tones on that disc. The 25Hz band played softly without doubling, and the 20Hz band was just detectable.

Listening

At long last, it was time for music. I began with a 24-bit/88.2kHz AIFF file of a pipe-organ recording of the

Toccata from Widor's *Organ Symphony 6*, played by Jonas Nordwall in First United Methodist Church of Portland, Oregon and recorded by John Atkinson. The 32' pipes had mass, solidity, and room lock, lifting the 25 and 32Hz bars of the RTA display above the other frequencies. These low-bass notes were well articulated, fast, and clean. I was satisfied that the SB13-Ultra's setup had been optimized.

Wasting no time, I played my favorite pipe-organ recordings, and the SB13-Ultra didn't disappoint. It delivered power, speed, articulation, and pitch definition, particularly with: the explosive, fortissimo ending of Shostakovich's *Passacaglia*, with its descending scales, as played by Christopher Herrick on his *Organ Fireworks IV* (CD, Hyperion CDA66605); the huge image and soundstage depth of the Turtle Creek Chorale, conducted by Timothy Seelig, singing "Lord, Make Me an Instrument of Thy Peace," from John Rutter's *Requiem* (CD, Reference RR-57CD), the final pedal note rumbling below the three-dimensional aural image of the chorus; the ominous, sustained 25Hz organ note that opens Strauss's *Also sprach Zarathustra*, as performed by Erich Kunzel and the Cincinnati Pops, on *Time Warp* (CD, Telarc CD-80106), a note I felt more than heard; the deep, airy pedal note of Howells's *Master Tallis's Testament*, performed by organist James Busby on *Pipes Rhode Island* (CD, Riago 101), which produced room lock and vibrated objects in my room; and the thunderous fullness and air of the 32' pipes in *Gnomus*, from Jean Guillou's performance of his own transcription for pipe organ of Mussorgsky's *Pictures at an Exhibition* (CD, Dorian DOR-90117). And when Mary Preston played the final note of John La Montaine's *Even Song*, from her *Organ Odyssey* (CD, Reference RR-113CD), the 32' pipe added depth, power, and grace.

The combination of Quad ESL-989s and SVS SB13-Ultra rendered clean, dense, fast response for many different instruments, including kick and bass drum, synthesizer, and or timpani. The synthesizers in my favorite recordings were articulate, linear, musical, and fast: the bottomless bass of the opening of "Deeper Wells," from Emmylou Harris's *Spyboy* (CD, Eminent EM-25001-2); "The Attack on Ryan's House," from the James Horner's score for *Patriot Games* (CD, RCA 66051-2), which uses synthesizer, bagpipes, chimes, and cymbals to generate suspense and a gut-tighteningly frenzied mood punctuated by concussive thuds; the huge bass footsteps in "The Carnotaur Attack," from James Newton Howard's score for *Dinosaur* (CD, Walt Disney 50086 06727); the tight, solid, dynamic heartbeat that threads its way through "Breathe," from Pink Floyd's *Dark Side of the Moon* (SACD/CD, EMI 82136-2); the turgid, synthesized deep-bass pulses at the beginning of "First Haunting/The Swordfight," from James Horner's score for *Casper* (CD, MCA MCAD-11240); and the sawing of the bowed double bass, weighty and massive, blended with synthesizer and contrabassoon, in "The Caravan Moves Out," from Philip Glass's score for *Kundun* (CD, Nonesuch 79460-2). The SB13-Ultra also revealed the dynamics, driving bass drum, and timpani that course through Stravinsky's *The Rite of Spring*, as performed by Eiji Oue and the Minnesota Orchestra (CD, Reference RR-70CD).

The addition of the SVS subwoofer didn't affect the Quads' reproduction of recordings of unaccompanied acoustic piano. The sound of Simone Dinnerstein playing J.S. Bach's *The Goldberg Variations* (CD, Telarc CD-80692) remained lyrical and clean. The light, clear quality of Keith

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Jarrett's piano in "True Blues," from his *The Carnegie Hall Concert* (CD, ECM 1989/90), was not disrupted by the reproduction of his thudding foot stomps through the SB13-Ultra.

Comparisons

For comparisons, I had on hand only more expensive subwoofers than the SVS SB13-Ultra: Bowers & Wilkins' DB-1 (\$4500), Velodyne's DD-18+ (\$5799), two JL Audio Fathom f113s (each \$4300), and a Revel Rhythm2 (\$10,000; review to come). The Velodyne, B&W, and JLA models ship with extras not included with the SVS, including calibration mikes, recordings of test tones, auto-calibration, front-panel controls, and, in the case of the Velodyne, a remote control. The Velodyne's 18" driver and the B&W's two 12" cones deliver greater bass power, wider dynamic range, and deeper bass than the SVS's 13" woofer—but each at three times the cost. A pair of JLA Fathom f113s and Bryston's 10B-SUB outboard electronic crossover (\$3595) made it possible for my Quads to deliver to my large room a wider, more three-dimensional soundstage with deeper bass than did a single

SB13-Ultra—but at more than *seven* times the cost. The Revel Rhythm2's internal crossover similarly expanded the Quads' dynamic range by vastly extending the deep-bass response, deepening soundstages, producing more room lock and slam, and better defining bass pitches, all with power enough to fill my room to the bursting point with bass—but at six times the cost and twice the weight of the SVS. You get the point.

Conclusion

I got a kick out of reviewing SV Sound's SB13-Ultra. Not only was it the smallest and least expensive subwoofer I've reviewed in some time, it delivered musical, well-articulated, truly satisfying deep bass in my large listening room without bloat, and without artificially pumping up the lowest octaves. I was delighted by its substantial build quality, external appearance, and extensive software controls.

Its competitive price explains why the SB13-Ultra doesn't come with a remote control, a calibration mike, or a self-adjusting room equalizer. These omissions meant that I had to set it

up the old-fashioned way: running back and forth between my listening chair (where I'd set up the calibration mike) and the sub to adjust its rear-panel controls. But taking the time to measure the room response, get the right balance of preamplifier volume and subwoofer gain, and try different crossover approaches really paid off in my listening sessions. For this reason alone, you should take advantage of SVS's 45-day in-home trial.

The SB13-Ultra sub did a great job of providing deep-bass reinforcement for my Quad ESL-989s, and its fire-sale price makes it a no-brainer if you want to buy two to make a stereo pair, and/or want lots of deep bass to fill a large listening room like mine. If so, SVS charges only \$2999.99/pair, knocking \$100 off the price of each. The SB13-Ultra's detailed, toe-tappingly pitch-perfect, stop-on-a-dime response, and its small size, low weight, rugged construction, superb finish, simple but sophisticated IFC control, sturdy drive-unit, and great customer support, all put it on my list of recommended subwoofers. In its price range and for smaller rooms, it's the best subwoofer I've heard. ■



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FOLLOW-UP

BY ART DUDLEY & JOHN ATKINSON

THIS ISSUE: AD and JA take second listens to well-reviewed loudspeakers old and new.

DEVORE FIDELITY O/96 LOUDSPEAKER

A few months ago, I finally got around to putting self-adhesive felt pads on the bottoms of the stands that support my review pair of DeVore Fidelity Orangutan O/96 loudspeakers (\$12,000/pair; see my review in the December 2012 issue).¹ Those solid-maple stands aren't fitted with adjustable spikes or adjustable anything else, and because few hardwood floors are dependably, perfectly flat—including the ones I've installed, such as the Jacobá floor in my listening room—loudspeakers and equipment supports are often in need of the slightest shimming. Handily, pliant pads allow heavy items to adjust themselves on surfaces that are mildly uneven. Besides, I tend to prefer their influence on a speaker's sound to that of metal spikes, which often sound fussy, unnatural, and unrelaxed.²

Felt pads are also good for enhancing loudspeaker movability. Given my line of work, I'm forever swapping audio components into and out of the far end of my listening room, which is about 60' from the entranceway where incoming shipments linger. Thankfully, most of the floors in our home are hardwood, over which felted feet can be pushed with relative ease by one person (ie, me).

The downside of felt pads is that they're the very devil to remove, and tend to leave behind a real mess of adhesive and fibers. But now I don't care, because I bought our review pair of DeVores: I can do with their stands as I please.

These days, when my attention isn't required by loudspeakers in for review, I divide my listening time between the DeVore O/96s and my nearly 50-year-old Altec Valencias. The Altec and DeVore share a few traits. Both are more efficient³ than average, notably fine at playing music with a believable sense of scale, and both have larger-than-average bass drivers for two-way loudspeakers: 13" for the Altec, 10" for the DeVore. Otherwise, they're different sides of a rarely traded coin. The Altec is all about touch, texture, impact, presence, and directness, yet it funds some of those accomplishments with sacrifices in tonal neutrality—at its worst, the Valencia can be slightly shrieky. The DeVore doesn't have quite the same texture and touch—though it's better than average in those departments—and embodies much that is good about more decidedly *modern*



These days, when my attention isn't required by loudspeakers in for review, I divide my listening time between the DeVore O/96s and my nearly 50-year-old Altec Valencias.

hi-fi, including notably wide bandwidth and a sophisticated way with the spatial characteristics of good stereo recordings. The O/96 also manages the neat trick of sounding simultaneously substantial and open—but never overtly “airy.”

The DeVore and Altec share one more quality: Each allows recorded music to retain the momentum and flow of the real thing, which not all loudspeakers do. Even some unambiguously great ones—the BBC-designed LS3/5a comes to mind—can confound in that regard. To me, that sort of musicality is worth all of the other characteristics put together, and the DeVore O/96 has it in spades.

While the Altec Valencia suffers no shortage of convincingly saturated tonal colors, it doesn't eclipse the O/96 in that category. As I write this, I'm luxuriating in the sound of Dexter Gordon's richly toned tenor sax in “Don't Explain,” from a recent reissue of his *A Swingin' Affair* (45rpm LP, Blue Note/Music Matters 84133)—which is to say nothing of the sound of Sonny Clark's piano, which the DeVores reproduce with exceptional substance and scale, and a believably human sense of touch (if a bit too much timbral thickness).

1 See www.stereophile.com/content/devore-fidelity-orangutan-o96-loudspeaker. DeVore Fidelity, Brooklyn Navy Yard, 63 Flushing Avenue, Unit 259, Brooklyn, NY 11205. Tel: (718) 855-9999. Fax: (718) 855-9998. Web: www.devorefidelity.com.

2 Notable exceptions included the Audio Note AN-E loudspeakers I enjoyed for so long. And I seriously doubt if speakers such as Naim Audio's enduringly interesting IBL and SBL, long discontinued, would sound nearly as engaging without their spikes.

3 For our purposes, *efficiency* is defined as having high electrical sensitivity as well as a combination of high electrical impedance and benign impedance-curve phase angle.



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In my 2012 review of the O/96, I mentioned its need for greater-than-average attention to positioning, in order to get the right combination of old-fashioned mono-era tone and force while pulling off the modern-day stereo disappearing act. To those ends I have refined my own O/96 installation, moving each speaker farther from its sidewall, and minimizing the influence of unfortunate room characteristics with some John DeVore-inspired asymmetry: One O/96 is now 32" from the closest sidewall, while the other is 35" from its nearest wall (all dimensions measured from center of front baffle).

I have also, in a small way, altered the rest of my system. Starting in October of 2013, and for just over a year after, I borrowed a sample of the 10Wpc, single-ended Shindo Cortese amplifier, to use in place of my 20Wpc, push-pull, Shindo Haut-Brion. (My 25Wpc Shindo Corton-Charlemagne mono amps remain, as does my 4Wpc Fi 421A stereo.) The combination of O/96s and Cortese sounds wonderful, especially with such rock fare as Neil Young and Crazy Horse's *Live at the Fillmore East* (LP, Reprise 44429-1). The pairing doesn't compress or sand the rough edges from this raucous performance, but rather communicates the music's drive and rhythmic randomness, while opening up the sound to find such buried details as Jack Nitzsche's electric-piano playing in "Come On Baby Let's Go Downtown" without reverting to brightness to do so.

The combination of DeVore O/96s and Shindo Cortese also nails the



The O/96 manages the neat trick of sounding simultaneously substantial and open—but never overtly “airy.”

sounds of Bill Bruford's drums and John Wetton's electric bass throughout the recent reissue of King Crimson's *Larks' Tongues in Aspic* (LP, Discipline Global Mobile KCLP 5), especially evident in "Easy Money." The DeVores presented those sounds with proper weight and force—and with as much punch, color, and convincing sense of resonance as I've heard from a domestic playback system. Notably, the DeVores also put across the intensity of the many unexpected instrumental outbursts in "Larks' Tongues in Aspic, Part Two." The manner in which the

big-but-not-huge O/96s communicate the scale and the sheer dynamic chaos of Bruford's percussion onslaught near the end of the piece is a delight—and this on just 10Wpc.

In his "Manufacturer's Comment" on that earlier review, John DeVore wrote that the Orangutan O/96, which began shipping in mid-2011, was a "clean-slate design." One might wonder: In a marketplace that had conferred on his earlier and very different products a measure of success, how did something so different fare? DeVore describes an uncertain beginning: "[The O/96] is so unlike what people were ready to see from me, or to see in mainstream high-end shops. People who had never heard the new speakers would say, 'This can't work! DeVore needs to take a class!'" Indeed, immediately after my review went up on www.stereophile.com, two Internet denizens who had not heard the O/96—and who proclaimed no need to do so as a prerequisite for trashing it—altered the normal level of discourse until it no longer fell within the pH range of healthy audio enthusiasts.

As is virtually always the case, the most aggressive (and anonymous) people on our Internet forum were not representative of real-life enthusiasts or consumers. John DeVore says that, in 2013, the O/96 was his best-selling model "by a clear margin. I wouldn't be surprised to see that it did that again in 2014."

It appears that DeVore Fidelity's Orangutan O/96 is here to stay—as both a commercial product and as a well-loved part of my playback system. —Art Dudley

REVEL PERFORMA3 M106 & KEF LS50

A comment by "cgh" in an online reprint of a *Stereophile* review⁴ caught my attention: "The [1990s] were probably the last real decade that we could reasonably bend the truth. Everything since is verifiable electronically."

Everything? After a quarter century of measuring the performance of audio components for this magazine, I'm not so sure that we have a firm handle on what makes audio products sound different from one another. Even when it comes to loudspeakers, it can be difficult to characterize their performance in an objective manner. For a case in point, see my review of the Nola Metro Grand Reference Gold

loudspeaker last September,⁵ in which even evaluating something as basic as its frequency response proved far from straightforward.

The Nola is a complex, idiosyncratic design. But what about more conventional designs, like two-way, stand-mounted speakers? Consider, for example, the Revel Performa3 M106, which Robert J. Reina reviewed in September 2014.⁶ Bob had nothing but praise for this \$2000/pair speaker: "Revel's Performa3 M106 is an extraordinary bookshelf loudspeaker," he summed up. "Its strengths impressed me across the board, especially for a speaker of its size and price. . . . I've reviewed several dozen

bookshelf speakers since . . . 1985, and I don't think I've enjoyed music of all genres through any of them as much as have through the M106."

Following the review, I set up the Revels in my listening room, both to audition them for myself and to compare them with the two-way, stand-mounted KEF LS50 (\$1500/pair), which was our 2013

4 See www.stereophile.com/content/mark-levinson-hqd-loudspeaker-system.

5 See www.stereophile.com/content/nola-metro-grand-reference-gold-loudspeaker.

6 See www.stereophile.com/content/revel-performa3-m106-loudspeaker. The Performa3 M106 costs \$2000/pair. Revel, Harman Luxury Audio Group, 8500 Balboa Blvd., Northridge, CA 91329. Tel: (888) 691-4171. Web: www.revelspeakers.com.

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"Loudspeaker of the Year" and "Overall Product of the Year." I reviewed the KEF LS50 in December 2012, with Follow-Ups from Stephen Mejias (May 2014) and Sam Tellig (June 2014).⁷

Both the Revel and KEF come from companies that are heavily based in engineering. KEF, headquartered in England but with production in its Chinese factory, was the first speaker manufacturer to make use of FFT measurement techniques. Revel, based in southern California but having its Performa3 models, including the M106, assembled in Indonesia, has access to Harman's R&D facilities. These labs were set up by the renowned Dr. Floyd Toole, whose series of papers on loudspeaker performance in the 1980s defined which factors were of primary importance. KEF's design team is led by Jack Ocleo-Brown, Revel's by Kevin Voecks and Mark Glazer, all well-respected engineers.

Before I discuss my auditioning of these two speakers, Fig.1 compares their anechoic responses on the tweeter axis at 50°, averaged across a 30° horizontal window and with the complex sum of the woofer and port nearfield responses plotted below 300Hz. (I used DRA Labs' MLSSA system and a calibrated DPA 4006 microphone.) The blue trace is the KEF, the red trace the Revel. Despite their differences in design—the Revel is a conventional two-way with the tweeter mounted above the woofer, while the KEF has a coaxial Uni-Q driver, in which the tweeter is mounted on the front of the woofer magnet's pole-piece—the two speakers measure very similarly. Both have a very flat, even response, though the M106 has 1–2dB more energy apparent above 4kHz. Both have an apparent peak in the upper bass that is almost entirely an artifact of the nearfield measurement technique. And both have a port tuned to just above 50Hz, though the KEF appears to roll off a little more quickly than the Revel below the midbass region.

Fig.2 shows the spatially averaged, 1/6-octave response of the two speakers in my listening room. (Using an

Fig.1
Revel Performa3 M106 (red) and KEF LS50 (blue), anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with complex sum of nearfield responses plotted below 300Hz.

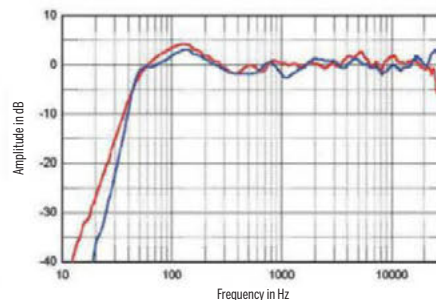
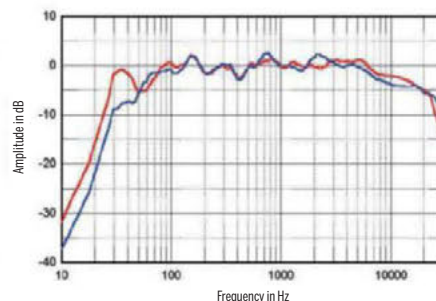


Fig.2
Revel Performa3 M106 (red) and KEF LS50 (blue), spatially averaged, 1/6-octave response in JA's listening room.



The Revel's top octaves were extended and airy, but too much so in my room and system.

Below and right:
Revel Performa3 M106 loudspeaker



⁷ All this coverage can be found at www.stereophile.com/content/kef-ls50-anniversary-model-loudspeaker. The LS50 costs \$1500/pair. GP Acoustics (UK) Ltd., Eccleston Road, Tovil, Maidstone, Kent ME15 6QP, England, UK. US distributor: GP Acoustics (US) Inc., 10 Timber Lane, Marlboro, NJ 07746. Tel: (732) 683-2356. Fax: (732) 683-2358. Web: www.kef.com.

Earthworks QTC-40 microphone, I average 20 $\frac{1}{6}$ -octave-smoothed spectra, taken for the left and right speakers individually using SMUGSoftware's FuzzMeasure 3.0 program and a 96kHz sample rate, in a rectangular grid 36" wide by 18" high and centered on the positions of my ears.) Again the Revel Performa3 M106 is the red trace, the KEF LS50 the blue trace; and while the Revel is 2dB more sensitive than the KEF, I have equalized the levels at 1kHz to make the differences stand out.

The two traces match extremely closely in the upper bass and lower midrange, which is perhaps not surprising given that both pairs of speakers were positioned in the same places in the room and their horizontal radiation patterns are identical in these frequency regions. But what is surprising is that the Revel M106 excites the lowest-frequency room mode, around 32Hz, to a much greater extent than the KEF LS50, with a concomitant increase in effective bass extension. Higher in frequency, the KEF has a couple of small peaks evident, centered on 800Hz and 2.1kHz, and the Revel 1–2dB more energy from 3 to 16kHz. But other than those matters, both speakers offer smooth, even in-room responses.

It is not unreasonable, therefore, to think that these two speakers would sound more alike than different. Not unreasonable, but incorrect. The Revel's more extended low frequencies in the in-room response were audible—I didn't use the optional port plugs—but not significantly so with most recordings, at least at reasonable levels. The Revels *could* play louder than the KEFs without strain, and with my recording of organist Jonas

Nordwall playing the *Toccata* of Widor's Organ Symphony 6 in the First United Methodist Church of Portland, Oregon (24-bit/88.2kHz AIFF file), the LS50s couldn't keep up with the M106es when it came to high levels of low bass. The KEFs did present a little more upper-bass energy than I was expecting from the in-room measurements. But although the speakers' midranges sounded similar, their treble sounds were surprisingly different.

Both speakers reproduced male voices of all types with convincingly natural tonal colors: Bill Medley's phlegmy baritone, for example, in his singing, with Phil Everly and Brian Wilson, of the latter's "In My Room," from Medley's *Damn Near Righteous* (256kbps AAC downloaded from a YouTube link that seems to have disappeared, though the CD is now available); Jimmy Webb's tenor on the bayon-rhythmed "Campo de Encino," from his *Letters* (ALAC file ripped from CD, Reprise); and Aaron Neville's haunting alto in "Amazing Grace," from our January 1990 "Recording of the Month," Daniel Lanois's *Acadie* (ALAC rip from CD, Opal/Warner Bros. 25969-2). I could live with either speaker for these tracks, and the Revels had a slight advantage when it came to decoding the overcompressed historical document that is the Medley-Everly-Wilson collaboration. Similarly, the M106es did a little better when it came to separating the strands in the dense mix of the title track of our June 2013 "Recording of the Month," Aidan Baker's *Almost Drowning* (ALAC file ripped from CD, Gizem GZH 043CD).

But as much as I appreciated the Revel's transparency to recorded detail, its treble was a little unforgiving. The cymbals in "Almost Drowning" had too much sizzle, for example, though it's fair to point out that Bob Reina loved how the Revel handled the high frequencies. "The percussion transients were lightning-fast and clean, but

The KEF LS50 gave a sound that was evenly balanced from the upper bass through the high treble, with superbly defined imaging.



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Preamplification Ayre Acoustics KX-R Twenty line preamplifier.

Power Amplifiers Pass Labs XA60.5 monoblocks.

Cables Digital: AudioQuest Coffee, Belkin Gold USB, Kubala-Sosna Elation! AES/EBU, Transparent USB (with dCS Vivaldi). FireWire: AudioQuest FireWire 400 (prototype). Interconnect (balanced): AudioQuest Wild Blue, Kubala-Sosna Elation!. Speaker: Kubala-Sosna Elation!, Nordost Odin. AC: Kubala-Sosna Elation!, manufacturers' own.

Accessories Target TT-5 equipment racks; Ayre Acoustics Myrtle Blocks; ASC Tube Traps, RPG Abffusor panels; Acoustic Ballasts, VPI Bricks, Shunyata Research Dark Field cable elevators; APC S-15, Audio Power Industries 116 Mk.II & PE-1 AC line conditioners (hard drive, computers). AC power comes from two dedicated 20A circuits, each just 6' from breaker box.—John Atkinson

also relaxed and natural, with a 'rightness' that made transients through other speakers sound mechanical or artificial," he wrote, and mentioned the speaker's "extended and airy highs." Yes, the Revel's top octaves were extended and airy, but too much so in my room and system. Women's voices didn't fare as well as men's, acquiring a bit of a hard edge, and when the recording was of doubtful quality—much as I love Chrissie Hynde, there's no pretending that the Pretenders' singles are anything like audiophile quality—I wanted to turn down the volume a tad. Overall, the Revel's top two octaves seemed slightly disconnected from the lower-frequency body of instrumental and vocal tones.

By contrast, the KEF LS50s presented the treble region of Hynde's voice more in the correct proportion to the body of her tone in the midrange. So while, in "Talk of the Town," there

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was still a touch of “spitch” to her sibilants in the words *sky*, *sit*, *some*, and *shots*, this didn’t detract from the overall experience. In fact, although it had been two years since I’d last listened to the KEF LS50 at home, getting a new pair reminded me why I had so highly recommended them. “It is rare to find a loudspeaker that offers this combination of clarity and neutrality,” I wrote in my 2012 review, adding that “the LS50 is one of the finest speakers at reproducing female voices that I have heard.” My experience of this second pair didn’t change that opinion. The KEF LS50 gave a sound that was evenly balanced from the upper bass through the high treble, with superbly defined imaging.

The Revels’ imaging was also superb, with excellent stability of central sound sources. But I kept coming back to its treble balance. It’s fair to point out that the Triangle Signature Delta speaker, which I reviewed last September,⁸ had as much treble energy in-room as the Revel M106, though with a less even balance. However, that large, three-way tower has an octave more low-frequency extension than the stand-mounted

KEF’s design team is led by Jack Oclee-Brown, Revel’s by Kevin Voecks and Mark Glazer, all well-respected engineers.

Revel, which better balances its treble.

Looking again at fig.2, although the Revel M106 has just 1–2dB more energy in-room above 3kHz than the KEF, this excess covers two-and-a-half octaves. There is therefore a large “area under the curve,” making this excess, compared with the KEF, more audible than the difference in level would imply. I remember setting up a pair of Revel Ultima Salon2s in my room in 2009.⁹ The Salon2 has a level switch for the tweeter that operates in 0.5dB steps, and it turned out that the optimal treble balance would have been *between* two of those steps. With the switch affecting the entire range covered by the tweeter, a level difference of just 0.25dB turned out to be significant.

In rooms that are larger than mine

and/or more damped in the treble, therefore, the Revel M106’s treble would tend to sound in better balance with the midrange, while the LS50 might sound too mellow. (My room is not overdamped, with a reverb time that averages around 250ms in the midrange and low treble, reducing in the top two octaves.) But the Revel would be a less-optimal choice than the KEF for small, lively rooms, especially if the electronics in the system tended toward the overanalytical—such as MBL’s Corona C15 monoblocks, which I reviewed last June.

That two such well-engineered loudspeakers with broadly similar measurements can sound so different reinforces our long-term advice: While reviews are a useful guide to which products you might consider buying, an audition in your home with your system is still of primary importance.

—John Atkinson

⁸ See fig.7 at www.stereophile.com/content/triangle-signature-delta-loudspeaker-measurements.

⁹ See <http://tinyurl.com/n2ea7fj>. With their treble controls set to Flat, the Salons2s had perhaps the smoothest spatially averaged response any speaker has had in my current room.



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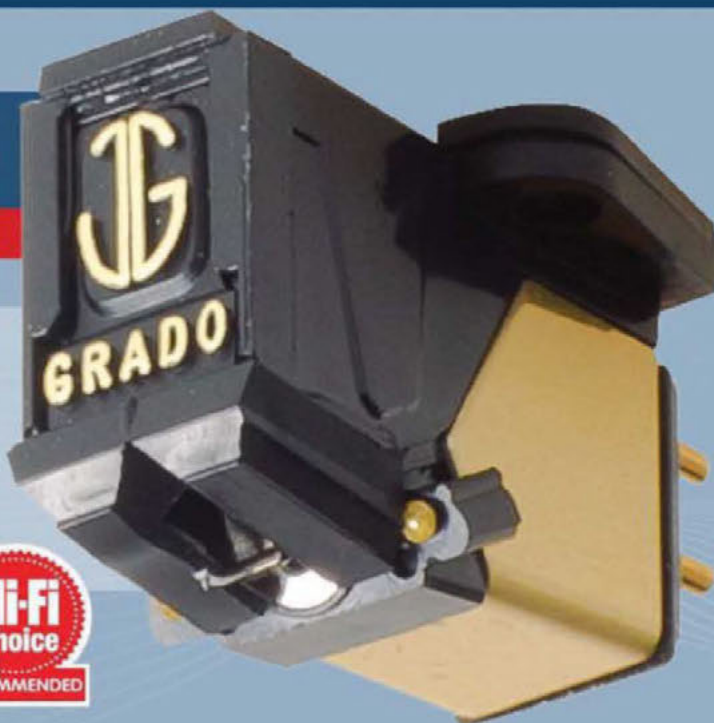
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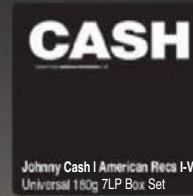
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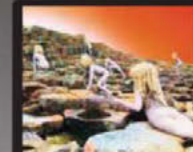
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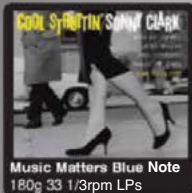
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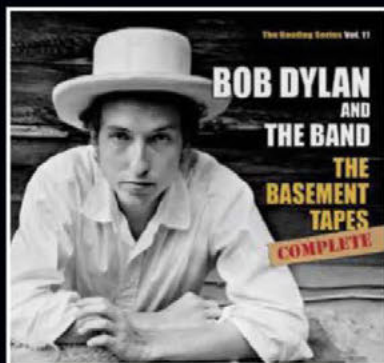
RECORD REVIEWS

The Basement Tapes are, as musician and archivist Sid Griffin writes in the liner notes, a kind of Rosetta Stone codifying the interface of myths, folktales, and song stories that inform the restless spirit of Bob Dylan's work. All the ingredients of American folklore, from blues and gospel to country, R&B, and rock'n'roll, went into this home brew distilled in the Catskill Mountains by Dylan and the Band over the course of these sessions.

Some of this music—recorded in 1967 by Garth Hudson on two-track, $\frac{1}{4}$ " analog tape—has appeared before: a collection of demos that led to hits like Manfred Mann's "Mighty Quinn," and several songs that appeared on the Band's *Music from Big Pink*; a series of muddy-sounding, unauthorized dubs, beginning with *The Great White Wonder*; and the 1975 commercial release of *The Basement Tapes*, mixed down from stereo to mono, with some instrumental and vocal parts rerecorded by producer Robbie Robertson. Greil Marcus wrote the liner notes for the '75 version as well as a book, *Invisible Empire*, about the Basement Tapes. Marcus's interpretations of the signs gleaned from the murky depths of these cassette dubs enlarges the scope of the tapes by linking them with another cornerstone of American folk history, Harry Smith's *Anthology of American Folk Music*. Now we finally get an unobstructed view of what Marcus marveled at: the sound of a great American songwriter emerging into maturity. *The Basement Tapes* marks the end of Dylan the enfant terrible of the 1960s, and the emergence of the calm, oracular sage of the 1970s.

The Bootleg Series Vol.11 is the complete view of this music. Jan Haust and Hudson reconstructed it from a variety of sources, digitizing and remixing it back to the original stereo. Peter J. Moore's remastering recaptured the spirit of the sessions, warts and all—a

EDITOR'S PICK RECORDING OF THE MONTH



BOB DYLAN AND THE BAND *The Bootleg Series Vol.11: The Basement Tapes Complete*

Columbia/Legacy 88875016122 (6 CDs). 2014.
Garth Hudson, orig. eng., tape restoration; Jeff Rosen, Steve Berkowitz, reissue prods.; Jan Haust, reissue prod., tape restoration; Peter J. Moore, tape restoration, remastering; Mark Wilder, prod., add'l. mastering. A-D? TT: 6:27:56

PERFORMANCE ★★★★★
SONICS ★★★★★

torrent of restored and unfiltered information. The sound levels are unabashedly uneven; there are alternate takes, false starts, unfinished songs; and disc 6 is a campfire stew that only the most committed will obsess over.

There's also a two-CD highlights set. It's tempting to say it's for those who want to go, as Dylan put it in the liner notes to *John Wesley Harding*, "just far enough so's we can say that we've been there." But this version cuts to the most important songs, and Dylan's remarkably expressive manner of singing them. His voice sounds better than on any previous release of this music, alternately bemused and haunted, and his interaction with the Band—particularly with the spirited harmony vocals and Hudson's otherworldly organ playing—is a spiritual exchange of the

highest order.

On the chronologically organized complete version we hear Dylan and the Band feeling their way through traditional material and some new songs, before striking a mortal groove roughly halfway through with a series of Dylan classics: "Million Dollar Bash," "Yea! Heavy and a Bottle of Bread," "I'm Not There," "Please Mrs. Henry," "Crash on the Levee," "Lo and Behold!," "You Ain't Goin' Nowhere," "I Shall Be Released," "Too Much of Nothing," "Tears of Rage," and "Quinn the Eskimo."

This is a difficult album to rate sonically. In restoring it to its original state, Haust and Moore have presented us with a deliberately rough-hewn product. But the painstaking effort to re-create the sessions as they happened, with the best-recorded versions of Dylan's vocals ever issued, is a work of restorative art in its own right, showing us this music without the masks it has paraded behind over the years.

So many of these songs have become part of our cultural history through numerous covers that it's become commonplace to call *The Basement Tapes* the forerunner of Americana. But just as Dylan didn't "invent" folk rock, the last thing he wanted was to create a new record-industry brand. He was working toward an opposite goal: to return to a place where music was transmitted from person to person rather than manufactured by an entertainment industry looking to mass market its product. *The Basement Tapes* is a shot across the bow of the record business: Dylan making music for its own sake and for his own purposes. This profoundly revolutionary concept—that an artist didn't need the intermediaries of A&R and production teams to produce the work—had its greatest impact as an idea, an approach to artistic freedom that would inspire the entire DIY movement of the 1970s and beyond.

—John Swenson

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“The album that brought together all of the Wharfedale's strengths was my original British pressing of King Crimson's Larks' Tongues in Aspic (LP, Island ILPS 9230). Every timbre in “Easy Money” was pristine and natural, with layers of detail and dynamic subtleties revealed. Each transient was crisp and clean, with no artificial sharpness or harshness. My listening notes read: ‘Drama! Detail! Clarity!’” —DIAMOND 10.7, STEREOPHILE REVIEW BY ROBERT J. REINA

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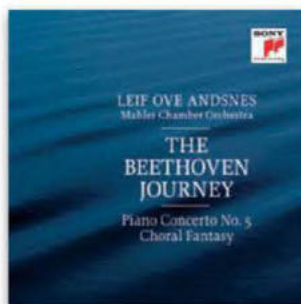
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BEETHOVEN

Piano Concerto 5, Choral Fantasy

Leif Ove Andsnes, piano, conductor; Mahler Chamber Orchestra, Prague Philharmonia Choir
Sony Classical 88843-05886-2 (CD). 2014. John Fraser, prod.; Arne Akselberg, eng. DDD. TT: 56:43

PERFORMANCE ★★★★★

SONICS ★★★★★

The world doesn't need another recording of Beethoven's "Emperor" Concerto, and barely needs one of his Choral Fantasy, but if one must be made and heard, let it be this one. From the opening arpeggios and madhouse trills on the piano, preceded and interrupted by powerful chords from the orchestra, we know that this Fifth means business. The joy of it, however, is that while it's muscular, it's not on steroids. The Mahler Chamber Orchestra is not a huge group; with Andsnes leading as well as playing, the performance is all of a piece, and the MCO's reduced strings ensure that all the woodwinds and quieter brass are always heard perfectly. There is majesty and virtuosity in the first movement; the hymn-like *Adagio* is simply beautifully played, with great respect, and the finale, with its majestic opening statement, repeated four times within the rondo form, is a whopper.

The 15-minute Choral Fantasy is unique in the repertoire: After a three-minute piano solo, the low strings enter sneakily, the piano noodles, winds creep in, then a bit of piano solo again, then the brass, then the BIG TUNE on the piano, imitated by all the orchestral parts, and—everybody's happy! Then, unexpectedly, a chorus arrives, singing of love and strength, and four minutes later the whole shebang ends in glory. It's great fun—sort a trial run for Beethoven's Symphony 9—and Andsnes, orchestra, and chorus are knockout great. One of the best Fifts; possibly *the* best Fantasy. —Robert Levine



MOZART

*Piano Concertos 17 & 24;
Piano Sonatas 4, 5, 8*

Piano Concertos 17 in G, K.453; 24 in c, K.491.
Piano Sonatas 5 in G, K.283; 4 in E-flat, K.282; 8 in c, K.310; Rondo alla Turca from Sonata 11, K.331.
Lang Lang, piano; Vienna Philharmonic, Nikolaus Harnoncourt
Sony Classical 8884308252 (2 CDs). 2014.
Martin Sauer, prod.; Julian Schwenkner, eng. DDD.
TT: 2:01:46

PERFORMANCE ★★★★★

SONICS ★★★★★

This is Lang Lang's first recorded pass at Mozart; the resulting glass is half full. Pairing with early-music dude Nikolaus Harnoncourt was a good idea, but he's leading the (somewhat reduced?) Vienna Philharmonic rather than a period-instrument ensemble, so there seems to be a compromise.

Disc 1 couples Piano Concertos 17 and 24. No.17 is a jolly little piece with a lighthearted finale whose main tune Mozart taught his pet bird to sing, and Lang does his best to lighten his approach and keep his ego out of it, despite the occasional very hard attack. Of course he plays it well—he's an amazing technician—but the performance lacks the sheer loveliness of, say, Geza Anda's on DG. No.24 is a bigger, darker, minor-key event; Lang's temperament is more suited to its drama, but he somehow misses the intensity *within* the drama. Even with a very beautiful central movement, it fails to move the listener as it should. Stick with Murray Perahia, also on Sony.

The solo works, with the exception of the encore—the *Rondo alla Turca*, played virtuosically and ridiculously quickly—are fine. Lang avoids bullying the music, playing the sonatas' slow movements almost carefully. Still, these performances do not replace many others in the catalog.

Sonics for the concertos are excellent; the sonatas, recorded live, vary.
—Robert Levine

ROCK/POP



THE KINKS

The Essential Kinks

Arista/RCA/Legacy 88843066622 (2 CDs). 2014.
Ray Davies, Shel Talmy, Dave Davies, orig. prods.; various, orig. engs.; Andrew Sandoval, compilation prod. AAD? TT: 2:39:15

PERFORMANCE ★★★★★

SONICS ★★★★★

THE KINKS

Muswell Hillbillies: Legacy Edition

RCA/Legacy (CD/DVD). 1971/2014. Ray Davies, prod.; various, orig. engs.; Andrew Sandoval, reissue prod. AAD? TT, CD: 71:55

PERFORMANCE ★★★★★

SONICS ★★★★★

Unlike virtually every other successful British Invasion band, the Kinks thrived more because of their musical genius and perseverance than because of commercial success. That their music ranged from the garage grunge of "You Really Got Me" to the existential glory and bucolic eloquence of "Waterloo Sunset" and "Days" in just a few years is every bit as jaw-dropping as the warp-speed journey from "She Loves You" to "Come Together."

"God Save the Kinks" became a promotional motto in the late '60s, when some of their best records barely charted. But the new *Essential* compilation makes a powerful case for the Kinks being the most human and understated of all the prolific bands of the 1960s, the early '70s, and beyond. And it sounds gorgeous—from the youthful sexuality of "All Day and All of the Night" to the horn-drenched dreariness of "Dead End Street" to the disenfranchisement of living in the material world in "20th Century Man." Even if you know only the early Kinks *ca* "Dedicated Follower of Fashion," you know that Ray Davies, the band's primary singer-songwriter-storyteller, was always cinematic in his ability to evoke images of frilly characters and sunsets, village greens and young lovers, alcohol and hardworking stiffs.

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— Sam Tellig, *Stereophile*, November 2012

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JAZZ

material from the band's lengthy stints in the States with Reprise, RCA, and Arista. It serves as both a marvelous career retrospective and a first-class introduction to the band for those who lost track of them after "Sunny Afternoon" and "Lola."

Released late in 1971, *Muswell Hillbillies*—the Kinks' last truly outstanding album—was their first for RCA. To paraphrase my praise for *Hillbillies* in *Stereophile's* "Records to Die For," Ray Davies here is the consummate observer of the world around him, longing for less excessive times. When, in "Complicated Life," he sings, "You gotta slow down your life or you're gonna be dead," the sentiment is timeless. And the boozy delivery of "Alcohol" invokes a smile, despite the message that too much work will drive you to drink.

Over the past few years, many classic Kinks' albums, including *Something Else*, *Village Green Preservation Society*, and *Muswell* have been artfully reissued overseas by Sanctuary Records, with bonus tracks. One key component of those packages is reissue producer Andrew Sandoval, who, with Dan Hersch, did the remastering; their attention to detail, including the brightening of the acoustic guitars, is sparkling. This *Legacy Edition* of *Muswell*, remastered from the original analog tapes, reprises most of the Sanctuary bonus tracks, including alternate versions, and the outtake "Lavender Lane," a somewhat mischievous second cousin to "Waterloo Sunset." A nice bonus is a CD-closing radio spot for *Muswell* suggesting that it could be Album of the Year. It was right.

Along with the nine bonus tracks, the *Legacy Edition* boasts a priceless treat: a DVD of *Muswell*-era TV and concert footage and interview snippets, including a gem taped in London's Archway Tavern, where *Muswell's* cover art was shot.

The most glorious part of the DVD are two videos shot for the BBC's *Old Grey Whistle Test* of January 4, 1972. Ray, whose emotive, shaggy face gets most of the close-ups, sings *Muswell's* "Acute Schizophrenia Paranoia Blues" and "Have a Cuppa Tea" ("For any old ailment or disease / for Christ's sake have a cuppa tea") as if he's a West End idol disseminating one of the world's deepest secrets. And he just might be—not just here, but throughout the Kinks' brilliant pop-music catalog. Which lives on, thank God. —David Sokol



THURSTON MOORE
The Best Day

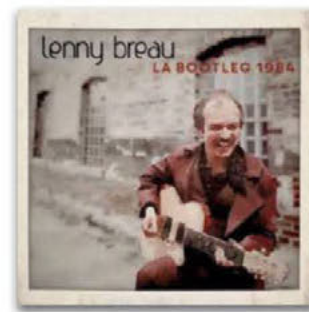
Matador OLE 1062-1 (LP). 2014. Thurston Moore, prod.; Dan Cox, Orlando Leopard, Charlie Nash, engs. AAA. TT: 50:25

PERFORMANCE ★★★★★
SONICS ★★★★★

Not even counting the many albums he cut with NYC avant-rockers Sonic Youth, Thurston Moore has released scores of records, ranging from collaborative free jazz and experimental noise/drone music to "proper" solo albums rooted as equally in his songwriting and singing as in his notorious guitar slinging. In the latter category falls *The Best Day*, the follow-up to 2013's *Chelsea Light Moving*, credited to Chelsea Light Moving but identifiably a Moore project. That *The Best Day* bears favorable comparison to some of Sonic Youth's more tuneful, accessible work is reason to cheer for fans still distraught by the group's split in 2011.

Right off the bat, in "Speak to the Wild," Moore is heard tapping and chiming his axe, uncoiling an elliptical riff that's downright hypnotic; joining him are SY drummer Steve Shelley with de facto surrogate Youths Deb Gooze (My Bloody Valentine) on bass and guitarist James Sedwards, in a tightly focused march to a noisy peak. Other songs are no less cathartic: the droning, 12-string-powered "Tape"; the punk/garage dissonance of "Detonation"; a blazing, effects-strewn psychedelic instrumental, "Grace Lake."

This vinyl edition is spread across two LPs—the 8-minute "Speak to the Wild" and the 11-minute "Forevermore" each occupy an entire side. A/B-ing the formats reveals the CD as louder, but when the volume is boosted for the LP there's a richer, wider soundstage boasting more detail and nuance—particularly in the highs, and in certain guitar passages, where one can practically hear Moore's fingers pressing the strings. By comparison, the CD sounds compressed, midrangey, listless. —Fred Mills



LENNY BREAU
LA Bootleg 1984

Lenny Breau, seven-string guitar; Paul Gormley, bass; Ted Hawk, drums. Guitararchives/Linus Entertainment 270201 (CD). 1984/2014. Randy Bachman, prod.; Phil deGruy, eng. AAD? TT: 66:32

PERFORMANCE ★★★★★
SONICS ★★★★★

Jazz history is filled with gifted flame-outs who lived hard, died young, and became cult figures. Lenny Breau, virtuoso and drug addict, exemplifies the genre. From Chet Atkins, Breau learned thumb-pick and finger-style techniques rarely used in jazz guitar. He could simultaneously sustain intricate melodies, bass lines, and chordal accompaniment. On his custom seven-string instrument, he played chord voicings previously available only to pianists.

LA Bootleg 1984 is a newly discovered live recording made at Donte's, a Hollywood jazz club, long gone. The opening track, Cole Porter's "I Love You," is sublime guitar excess. Ridiculously fast thematic variations might go on forever. Instead, Breau ties them into a grand design. The next piece, Tadd Dameron's "If You Could See Me Now," is an achingly slow immersion in defenseless emotion. It is breathtaking. By the time "Stella by Starlight" arrives, 11 minutes of rarefied melodic embellishment and rhythmic relativity, it is clear that Breau's technical innovations were not destinations. They served beauty. His guitar sound was a mind-altering, enveloping glow. All the fullness created by his backgrounds and counterlines were there so that Breau, in the words of guitarist Larry Carlton, could "reach into your heart."

This gorgeous music is contained in a barren CD package with no liner notes and weak graphics. The sound is satisfactory.

Two months after he made this recording, Lenny Breau was murdered in Los Angeles. He was 43. The crime has never been solved. —Thomas Conrad

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RICHARD GALLIANO
Sentimentale

Richard Galliano, accordion; Tamir Hendelman, piano; Anthony Wilson, acoustic & electric guitar; Carlitos Del Puerto, bass; Mauricio Zottarelli, drums

Resonance RCD-1021 (CD). 2014. George Klabin, prod.; Fran Gala, eng. DDD. TT: 66:21

PERFORMANCE ★★★★★

SONICS ★★★★★

A French jazz accordion virtuoso who's also recorded classical and Brazilian music, Richard Galliano mixes jazz standards with Brazilian pop on his latest release, which features an international group of jazz journeymen recruited by producer George Klabin. Only three of the 12 tracks are up-tempo, and the prevailing mood is poignantly romantic, in keeping with the album's title. Galliano displays a highly expressive technique, but the other musicians are merely facile, playing with sleek proficiency. The material, arranged by pianist Tamir Hendelman, is given a straight-ahead treatment with a slight fusion tinge, which suits the newer compositions better than it does Ellington's classic "In a Sentimental Mood," though it nicely complements the up-tempo hard-bop oldie "The Jody Grind," adapted here from a vocal version by Dee Dee Bridgewater rather than from Horace Silver's original.

One of the most successful adaptations is of another up-tempo tune, Chick Corea's "Armando's Rumba," which opens the album in sprightly style, with solid solos from the band members. On the dreamier side, "Canto Invierno," originally a taut duet between Dave Grusin and Lee Ritenour, receives a respectably respectful interpretation. There are also two Galliano originals, including the previously unrecorded "Lili," performed as a shimmering duet with guitarist Anthony Wilson. The album's only false note is in Coltrane's "Naima," for which Wilson affects an electric-sitar tone. All in all, it's pleasant but not profound. —Larry Birnbaum



CHARLES LLOYD
Manhattan Stories

Charles Lloyd, saxophone, flute; Gábor Szabó, guitar; Ron Carter, bass; Pete La Roca Sims, drums
Resonance HCD-2016 (2 CDs). 2014. Zev Feldman, Dorothy Darr, prods.; George Klabin, Fran Gala, mix, editing, restoration. ADD. TT: 84:52

PERFORMANCE ★★★★★

SONICS ★★★★★

The two discs in this package capture two very different musical experiences, both the work of one band in peak form. Rising saxophonist Charles Lloyd would soon transition to his hugely successful *Forest Flower* quartet with Keith Jarrett, but these long-buried New York recordings from 1965 offer the only live documentation of a lineup heard on his Columbia studio albums *Of Course*, *Of Course* and *Nirvana*. Gábor Szabó, on amplified acoustic guitar, gives an almost skronky, rock-edged textural underpinning to the music, while bassist Ron Carter and drummer Pete La Roca Sims groove hard and navigate every subtle compositional turn.

Resonance label head George Klabin, back in his WKCR-FM days, taped the performance on disc 1 in the proper uptown venue Judson Hall. The sound is clean and powerful, with three tracks of significant length and exploratory fervor. Disc 2, from Lloyd's personal archive, finds the same band at Slugs' Saloon, in the East Village. This one is dirty and raw, like the venue itself. La Roca's cymbals lack clarity and the mix is unbalanced, but what matters is the mystical energy coursing through the three tracks, including a repeat of Szabo's vamp-driven "Lady Gabor" with Lloyd on flute.

The 34-page booklet includes a Q&A with Lloyd, as well as reflections from Michael Cuscuna, Don Heckman. For insight into the early playing of one of jazz's living masters on such signature pieces as "Sweet Georgia Bright" and "Dream Weaver," *Manhattan Stories* is a remarkable find.

—David R. Adler



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Marcin Wasilewski, piano; Sławomir Kurkiewicz, bass; Michał Miskiewicz, drums; Joakim Milder, tenor saxophone

ECM 2400 (CD). 2014. Manfred Eicher, prod.; Stefano Amerio, eng. DDD. TT: 73:49

PERFORMANCE ★★★★★

SONICS ★★★★★

In 2002, on his ECM album *Soul of Things*, Tomasz Stanko introduced to the world a young, unknown Polish rhythm section. Marcin Wasilewski, Sławomir Kurkiewicz, and Michał Miskiewicz sounded tasteful and intelligent but cautious, perhaps awed to be playing with their country's most important jazz musician.

That rhythm section has now become one of the great piano trios of the new millennium. They pursue a concept of impressionism devoid of sentimentality, based on fresh, unyielding melodic forms and unsettling harmonies. Lead and support roles shift moment to moment within the ensemble, seamlessly. There is a guest here, Joakim Milder. He belongs: His tenor saxophone sounds like Wasilewski's piano in an alternate voice of yearning.

Wasilewski writes piercing songs. "Austin" is a hovering state of sadness that never resolves. "Spark of Life" is performed in two variations. What they share, before they become separate journeys, is a melody like a whisper of the soul. These two compositions establish a particular rapt atmosphere into which the other tracks flow. This band's culture is so strong that it can assimilate material from a Polish grunge-rock group, Hey, and a contemporary classical composer, Grażyna Bacewicz. When they cover Sting's "Message in a Bottle" or Krzysztof Komeda's "Sleep Safe and Warm" (from the film score for *Rosemary's Baby*), it is fascinating to hear more familiar songs reimagined on this trio's terms of atypical lyricism.

—Thomas Conrad

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The Absolute Sound, issue 246, Oct - '14



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MANUFACTURERS' COMMENTS

THIS ISSUE: Pear Audio Analogue, Sibatech, Auralic, Simaudio, Sjöfn HiFi, and Monitor Audio comment on our reviews of their products.

Pear Audio Analogue Blue Kid Thomas & Cornet 2

Editor:

We want to thank *Stereophile* and Michael Fremer for his extensive and insightful review and for his many compliments to and high praise of Tom Fletcher's final turntable design, the Kid Thomas. We are gratified that Fremer found the Kid Thomas to be ideal for jazz, classical, and female voices, since that was the music Fletcher listened to while designing it. Fletcher always wanted to provide extraordinary musical experience without an extreme price tag. We are pleased that Fremer recognized the Kid Thomas's high value in today's turntable market, along with its smooth and evenly balanced sound and its very special midrange.

Unrestricted by previous designs, Fletcher set out to create a superior turntable and tonearm. Fletcher's last designs are not a revolution but an evolution. We feel his final designs wonderfully represent his in-depth understanding of how to create a very musical and emotionally involving turntable. His philosophy was to create the perfect marriage of materials, creating a turntable that is sonically in phase—where the whole is worth more than the sum of its parts.

We pleased and agree with Fremer that Fletcher's last design outperforms all of Tom's earlier turntable designs, including the two that Fremer mentions, the far more expensive Annalog and even the \$38,499 Nottingham Deco, and also agree with Fremer that the Cornet 2 arm is "faster, leaner, and better focused" than even the more expensive Graham Engineering 2.2 arm.

It is interesting that Fremer compared the Kid Thomas to another turntable of seemingly similar design that employs material compositions and combinations that Fletcher tried many years ago, when he designed the first Pear Audio Blue. But Fletcher later discovered that the unique solid-wood plinth used in the current Pear Audio Blue line, in combination with other material changes, created superior sonic results. While our unique plinth wood creates better sonic results, we still feel that plywood is a good material, which is why our new entry-level model, the Robin Hood, employs Baltic

Since many listeners might lack the tools or know-how to properly set up their cartridges, we encourage customers to have an experienced dealer set up the table for them.

birch plywood.

Following Fremer's comments, we have already improved our setup manual. But since many listeners might lack the tools or know-how to properly set up their cartridges, we encourage customers to have an experienced dealer set up the table for them. As with any involving musical component, where and on what you place your turntable will have an effect on its performance. All of our dealers can advise and supply you with the optimal hardware and can do the setup for you.

Peter Mezek

Pear Audio Analogue

Abis TA-1L

Editor:

Sibatech Inc. and Mockingbird Distribution very much appreciate the hard work by Art Dudley, and the publication of the review of our new tonearm, the TA-1L. Art brings up an excellent point about the description of the tonearm: It is a 12.7" tonearm, which is closer to 13" than to 12". We discussed it and will describe it as 12.7", rather than 12" or 13". Of course, the majority of tonearms are not *exactly* 12" or 9" long, but the point is taken. Thankfully, the mounting collar is rather small, and allows the arm to be mounted on armboards meant for 12" arms, as Art found when drilling the board for his Thorens TD 124.

Art is correct about the offset angle of "22°" being an error. It is 16.5°. That was a copy-and-paste editing error by the importer (me) of early specifications for the arm. Also, the pivot-to-spindle distance is 310mm, not 308mm. The manual and alignment jig have been corrected by the OEM.

In regard to the bass response of the tonearm, its effective mass, and determining appropriate matching cartridges, Art is correct: Despite its length, the TA-1L is intended to work with as many cartridges as possible. The 12.7" TA-1L

is actually less massive than the SA-1 (and the revised SA-1 will be longer and probably slightly more massive than the version reviewed by Art in March 2014). The intention of the designer was to produce a true transcription tonearm appropriate for the many different cartridges used by record collectors and archivists, some of which tend to be of medium compliance. Still, with a suitably heavy cartridge-headshell combo, or perhaps a lead spacer, the tonearm can be optimized for low-compliance cartridges. There is an optional, heavier counterweight that would also somewhat increase the effective mass of the arm.

The included rubber plug (for the alignment jig) is something that should be sent with all tonearms. Like Art, I wondered how we were supposed to accurately "eyeball" the setup without some kind of aid.

Art is correct, in our opinion, about the 0–3gm range of antiskate force: as VTF increases, antiskate becomes less important. For one thing, at some point, the skating forces cannot overcome the force of gravity. Additionally, many cartridges that track at over 3gm have spherical tips, which generate lower skating forces, and are almost always low compliance (with much less cantilever deflection than a high-compliance cartridge). And beyond that, a 12.7" tonearm generates lower skating forces than a traditional 9" tonearm!

We believe Art's subjective impressions prove the efficacy of the design: low distortion due to low tracking error; smooth bearings; and attention to detail. The result is a wealth of information for audiophiles, record collectors, and archivists. Further, availability of the arm is in weeks, not months, and everyone has worked to keep pricing realistic.

Phillip Holmes

Mockingbird Distribution for Sibatech

Our 5th Anniversary!!!

What it means for you...

Dear Reader,

It's been a great ride. Frankly speaking, it's hard for me to believe that it was five years ago (!) that *Get Better Sound* was first released.

Since that time, tens of thousands of audiophiles have made a significant improvement in the way their systems sound.

How do I know? It's all the wonderful e-mails and calls that I get every day from satisfied owners wishing to share their experiences.

Why the response?

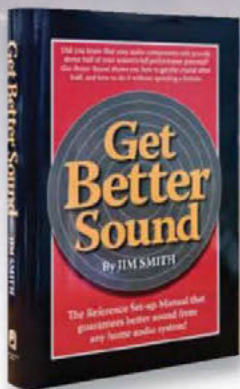
From what I can tell, it's because the *GBS* book and DVDs are approachable and accessible. As are the free *Quarter Notes* newsletters—already equivalent in size and scope to another book—that come with the purchase.

Of course, none of that would be possible if the tips in *GBS* didn't actually work!

And here's the other thing that amazes me. Folks seem to be genuinely surprised that I answer their e-mails promptly. Who knew that basic courtesy would be held in such high regard?

No more incomplete advice

It saddens me that there is so much misinformation out there, especially on the Internet.



Here's an example—most audiophiles have adopted some set-up guide or other. There are lots of them available from various manufacturers. Interestingly, they ALL differ in concept and execution. But which one is correct? In my experience, they all have a portion of the

truth, but none have the whole picture. It's incomplete.

If you ignore almost all of the 202 tips in *Get Better Sound*, and you only focus on set-up tips #59-89 in the book, and/or on Disc 2 in the 3-disc DVD set, you could lift your system's performance substantially. It's not rocket science. It just requires a little commitment on your part.

The 10% rule

Another partial truth is related to various so-called rules—such as the “rule of thirds.”

I've voiced countless systems that were set up with one of the set-up guides, or according to one of the “rules.” In every case, we were able to dramatically elevate the performance of each system—simply by using the proven basic information from *GBS*.

So I, with a little help from my clients, have developed the 10% rule. Any changes you might get from new electronics or cables—at any price—will equal perhaps 10% of what the

improvement would be by simply applying the tips found in *Get Better Sound*!

Celebration pricing

Guess I never thought about having a 5th anniversary sale. The *GBS* manual's regular price is \$44.50, but during the Celebration Sale, it's just \$29.80. Get similar savings on the DVD set, and save even more when they are purchased at the same time!

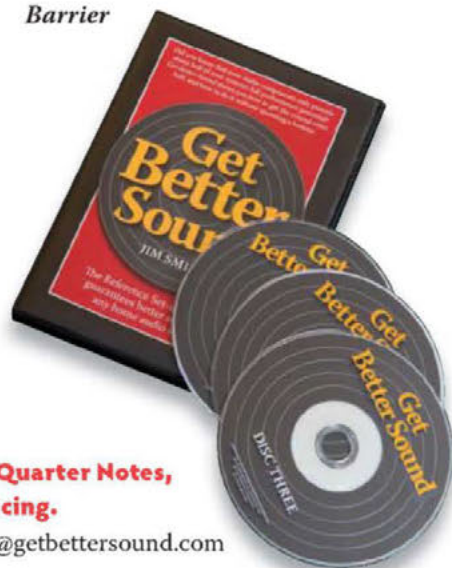
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Best regards,

Jim Smith

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Auralic Aries

Editor:

I would like express my appreciation to Michael Lavorgna for his detailed equipment report on the Aries, the first product from Auralic's Lightning product line.

Because the Aries and the entire Lightning project are about software, unlike with traditional audio hardware, the software development and refinement continue after the product hits the market: Customers will receive regular software updates to fix bugs not encountered in our extensive beta testing, as well as new and unusual features and operational capabilities. A software-driven product is always a work in progress . . . but a work that we are committed to.

Since the day we pressed the Start button on the Lightning project, in early 2013, it has been a great challenge for Auralic: millions of dollars have been and continue to be "burned" into R&D procedure, just to create something different, something that can truly change the way people enjoy hi-res music. And I think we did it! I believe that Auralic is not the first company that is trying to develop this kind of product; however, we are the first one in this market. And by being the first, that means that our ongoing software refinement will always be ahead of the competition, when and if they launch their products.

Between the time Michael's report was finished and this issue of *Stereophile* will have hit the newsstands, a lot of things have happened for the Aries. We have: 1) improved the firmware to reduce the display noise (which is an artifact of the display design itself), for those who do not wish to turn off the display; 2) integrated USB DAC drivers for the Mytek DAC and M2Tech interface; 3) integrated Tidal lossless streaming services; 4) released the USB playback function, to eliminate the need of a NAS drive in the network; and 5) added hundreds of performance improvements through optimization.

Everything on the Lightning project roadmap has been well planned: The Android version of Lightning DS has been delayed, but will be available by January 2015 (finally); the iPhone and improved iPad versions are coming in Q1 2015. If we look even further, DSD upsampling and room correction are not far away.

Software development is like a marathon. Auralic is well prepared for this match.

Xuanqian Wang
Auralic

Simaudio MiND

Editor:

We would like to thank Michael Lavorgna for his editorial on the MiND network player. He fully understands this product, and was able to convey this understanding to the *Stereophile* readership. That said, I would like to take this opportunity to mention a few additional things about both the MiND and the company behind it.

The "network player" is a rapidly evolving technology, and we are proud to be playing a significant role in this field. In developing the MiND, a great deal of emphasis was placed on actual sonic performance, not just ease of use. We believe that we have succeeded in this area, and ML's review clearly demonstrates this. However, configuring a network player is not always as straightforward as ML's experience.

We have a network of over 80 retailers in North America who will assist a customer with setting up his/her MiND on purchase. To further sweeten the pot, the 180 MiND comes with a five-year warranty and is part of our comprehensive two-year trade-up program. All of this is backed by a North America-based manufacturer entering its 35th consecutive year in business.

Finally, the identical MiND network player technology is also available, as an option, in our Moon Neo 380D DSD digital-to-analog converter, and will be available in certain future Moon products.

Lionel Goodfield

Marketing & Public Relations Simaudio

Sjöfn HiFi (the clue)

Editor:

We're confused!

Though Herb Reichert points out (the clue)'s transparency, dynamics, crisp transients, detail, "live" quality, gee-whiz low price, etc., he is disappointed in the "lean" bass, relative lack of warmth, and uneven tonal balance. We quote from his own blog comments from the Capital Audiofest, in July: "what I am now all about is finding that killer \$5k system that out plays the \$20k systems. And you know what? That is indeed possible and the sound in Sjöfn HiFi's room proved it. Typically, the first thing you give up in the lower end of the price scale is bass. Not with The Clue loudspeakers . . . They played the Ventures bass and drums with more weight and realism than I imagined possible. . . . The second thing you give up is midrange color and texture—again, not in the Sjöfn room. Here, the guitars sounded more real than

the prices!"

Blog comments about (the clue) from *Stereophile's* Art Dudley (October 2012): "I have no idea whatsoever how [Sjöfn's Managing Director, Lars Erickson] manages to wring such enormous scale, clarity, and impact out of such a tiny box. But he does." More from the esteemed Mr. Dudley (April 2013): "I've written before about . . . Sjöfn HiFi and their remarkable little loudspeaker called the Clue (\$999/pair): an inexplicably huge-sounding thing that does a far better job than average of putting across force, feel, and fun."

And from *Stereophile's* Stephen Mejias (October 2010): "I walked into the room just as a thunderous bass note was struck. 'Whoa,' I thought to myself as I took the last remaining seat in the packed demo. . . . The system was small, but it produced nothing but big, room-filling sound. There was that well-controlled, thunderous bass and startlingly quick transients."

Furthermore, all of the dozen or so other reviews of and commentaries on (the clue) that have appeared elsewhere in the audio press have stressed the prowess and accurate fullness of its bottom end—and most have pointed out its consummate tonal balance. (Accolades include the *Positive Feedback Online* Writer's Choice Award for 2011, and Best Sound for the Money at the 2011 Rocky Mountain Audio Fest.)

And when we demo (the clue), whether at our showroom or an audio show, the first thing out of auditioners' pie holes is usually, "Where's the subwoofer?" (You get a free pair of speakers if you can find one!)

Clearly, something aberrant was going on in Mr. Reichert's listening room. We would have greatly appreciated a one-line e-mail along the lines of: "These sound different from what I heard at the show. Whassup?" Had we received such a message, we would have encouraged him to place (the clue)s within a micron or two of the front wall (rather than at almost 2" out), and/or to move one or both speakers closer to a side boundary, and/or to move the listening position forward or back a smidgen—while adhering, to the greatest degree possible, to the setup guidelines, including the optimal ratio of width to listening distance. We're 99% sure that he would then have heard the full bass energy and warmth of which our speakers are capable (and which he heard at the Capital Audiofest), as well as top-drawer tonal balance (which is also, for our speaker, dependent on room-correct placement)—and saved us the ignominy of unfavorable comments, and him the

"The Audio Desk Systeme record-cleaning machine which hails from Germany, is a revelation. It is revelatory not just for ease of use, but also for the multifarious improvements it renders to vinyl playback. This fully automatic ultrasonic cleaner, which employs a cavitation chamber in which LPs are bombarded with tiny air bubbles to loosen microscopic bits of dirt and grunge while being scrubbed by four rotary cleaning barrels, will leave just about any LP looking almost pristine. Both used and new vinyl benefit from being immersed in the Audio Desk. Bass lines become more audible, the noise floor appears to vanish, and even ticks and pops seem to be mostly effaced. It also seems to be extremely reliable. In short, it is a well-nigh indispensable accessory for any serious vinyl rig."

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— *The Absolute Sound*, September, 2014



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MANUFACTURERS' COMMENTS *Continued*

crazy-making, furious swapping in and out of amps and cables.

Instead, we received a copy of a final, set-in-stone review—with only a few days to craft our response, and with no opportunity to correct Mr. Reichert's setup. See, correct room-boundary coupling is critical to our being able to offer a monitor with deep, powerful bass, pitch-perfect tonal balance, and a Brobdingnagian soundstage (both horizontally and vertically)—and other of the positive attributes of which Mr. Reichert makes mention in his review. Get it right—it is not difficult (and we're here to help you get it right)—and you will have the vaunted "you are there" experience for under a grand. Of that, we are cocksure.

And please note: (the clue) is not for the Lawrence Welk crowd! If you like to listen to music in a soporific haze, you're well advised to seek out artificially warm, colored speakers and a mushy-sounding tube amp. Per the many comments in the audio press (see above), our diminutive wonders—punchy, dynamic as they come, replete with transient snap—are fun and exciting to listen to. We'll put you in the mosh pit for Patti Smith at CBGB's, at a front table at the Village Vanguard for

Coltrane, at Folsom Prison with Johnny Cash. Of that, we're also cocksure!

Lars Erickson
Sjöfn HiFi

A technical addendum:

It is well beyond the scope of this short reply to address the complexity involved with measuring a device like (the clue), with its unique use model. But to make two simple, significant points:

1) When (the clue) is measured at an actual oblique-angle listening axis, the high frequencies are very smooth and extended, as Mr. Reichert stated in his subjective evaluation.

2) The nearfield bass measurement employed provides a half-space result, and does not represent the more complex "sequential" full-space to half-space to quarter-space, etc., enhanced bass loading of (the clue) when properly placed. When (the clue) is optimally set up, its in-room response provides transient-correct, reference-level bass down to at least 35Hz, and in many rooms lower (and as low as 28Hz).

Jim Croft, designer of (the clue)

Monitor Audio Silver 8

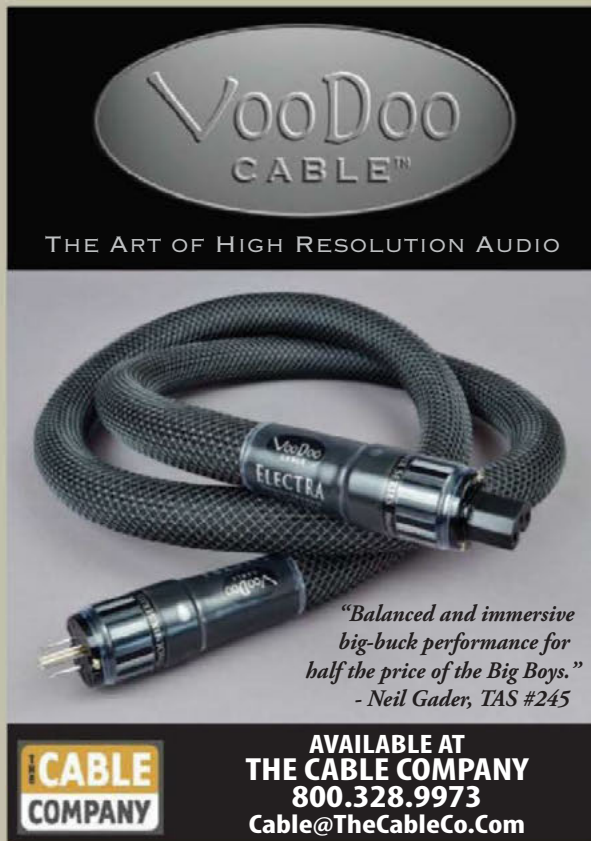
Editor:

We would like to thank Kalman Ru-

binson for the time he set aside to listen to and evaluate the fifth-generation Silver Series loudspeakers from Monitor Audio—specifically, the Silver 8. When Monitor Audio introduced the original Silver Series in 1997, the idea was to provide music lovers with an affordable range of products that looked great and represented value. The Silver Series would effectively bring a level of refinement, separation, power handling, and control at loud volumes, offering a mix of qualities rarely seen for the money from a range of loudspeakers.

Fast forward to the fifth generation of the Silver Series: the design goals initially set out by Dean Hartley and his colleagues in the UK remain unchanged. Advancements in engineering and driver design have resulted in this latest iteration of the Silver 8. With that said, we are thrilled with Kalman's review, as he has noted the qualities of the \$2000/pair Silver 8 and the value it offers to questing audiophiles: "I've been looking at speakers for \$3000/pair or less for a while, and have not heard any that I would prefer to the Monitor Audio Silver 8."

Sheldon Ginn
VP Sales and Marketing
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AURAL ROBERT

BY ROBERT BAIRD

Seems so long since we walked in the moonlight
Making vows that just can't work right
Open your arms, open your arms

He's Gotta Have It!

The question looms large over high-resolution downloads and the continuing flood of LP reissues: Why do we keep paying over and over again for the same music? Several prescient and pissed-off readers have written letters to this magazine in recent months asking how many times is too many to buy and rebuy the Beatles catalog? Or the Miles Davis catalog? Or Fleetwood Mac's *Rumours*? If you already have the original vinyl pressings and/or a set of CDs, be they the less-than-thrilling original transfers or much-improved reissues, do you really need to pay yet again for another piece of plastic or digital file? A collector's jones is one thing—but buying *every* reissue of a given album shades into psychosis, or at least begs the collective question: How dumb, or full of avarice are we?

Having asked all that, it's also true that many older records have been remastered and reissued in versions that sound better—sometimes dramatically so—than their original and/or subsequent releases. The 2009 remasterings of the Beatles' albums are the most obvious examples of this. There is much there that was not audible in previous editions.

And give the record business credit: They know how to bait the trap. After years of prosperity-driven lethargy, the increasing certainty of their own demise accelerated by piracy, the declining importance of music especially among the young, streaming, and any number of near-fatal self-inflicted wounds (\$18.99 gouging for CDs, suing teenagers, etc.) have finally convinced the remaining powers that be that juicing up reissues is a good idea. These days, adding previously unreleased outtakes, alternate masters, live tracks, and even video, all wrapped up in cool, intrinsically valuable packaging, has become widespread. In marketspeak, they've embraced value-added content, investing time and money to make what was familiar new—or new enough for devoted fans, and a significant minority of the more mildly obsessed to buy again.

Admittedly, I received my review copy gratis—but I still decided to apply this line of inquiry to the new super-deluxe boxed set of Led Zeppelin's *IV*, better known as “Zoso.” In my case, I wondered: Was it enough to already own the original US and UK LP pressings, the original US CD pressing, the 1993 flip-top CD boxed set, and various 45s and MP3s? Did I really *need* the new deluxe CD edition, the newly remastered original vinyl, and now this super-deluxe edition of CDs and LPs?

Like many children of the 1970s, I have vivid sensory memories of where I was when I first heard “Black Dog.” I can still smell the basement where the party was. Still hear that *THARG!* needle drop. Recall the portentous hush on the record before Plant's immortal a cappella, “Hey, Hey,



Mama said the way you move . . .” Released in November 1971, “Zoso”—which since has gone platinum 23 times over—contains perhaps Zep's most ubiquitous singles: “Black Dog,” “Rock and Roll,” and “Stairway to Heaven.”

Success, of course, has its downsides. The release of “Zoso” coincided with the rise of '70s album-rock radio, which overplayed those same singles to death—particularly “Stairway.”

Fortunately, the Zep records all sounded fantastic from the start, thanks to engineer Andy Johns and the engineer-producer in the band itself, Jimmy Page. The guitarist who once donned red suits with dragons trailing down the legs is credited as the producer of these new reissues, and as the man who culled alternate takes for the five (so far) companion discs that are the big draw for those familiar with the original albums.

The companion disc for “Zoso” contains the so-called Sunset Sound mix of “Stairway,” which Page has called a “guitar mix.” It and four other tracks were mixed in February 1971 at Sunset Sound, in Los Angeles, by Page and Johns, and “Stairway” was later remixed at Island Studios in London. According to Zep legend, Page thought the Sunset mix was too murky, though given what can be heard, a more egalitarian impulse may have inspired the final mix, in which the drums and bass are more prominent. This track alone makes the “Zoso” companion disc a fairly alluring jewel. Less interesting is a previously unreleased version of “Misty Mountain Hop” that is noisy, one-dimensional, and oddly cluttered and abrasive.

For each of the companion CDs and LPs in this reissue series, the cover art features a reverse (negative) print of the original artwork with a different color scheme. Each Super Deluxe set includes a card that unlocks a 24-bit/96kHz download, a numbered print of the cover art, and an 80-page clothbound book. In the case of “Zoso,” the book is primarily a collection of tour photos that show the band moving from beards in 1971 to clean-shaven in 1972. In several shots, John Bonham looks especially cherubic.

But is it worth spending \$104.88 and devoting more shelf space to a collectible you “need” but may listen to only a handful of times? Frankly, for that reasonable price, Page has stacked the deck towards the positive. Also, the LPs were pressed at Pallas, in Germany, and they're superb. And hey, it's always nice to have well-done tchotchkes with more pictures of what's arguably the greatest rock band ever. I freely admit, I've got the disease: *twenty* versions of Led Zeppelin *IV* probably wouldn't be enough, particularly if each has extra goodies. But to try out logic, just for the sake of argument, how many listening hours in my life do I actually have left? ■




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